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OFFICIAL JOURNAL OF THE SOUTHWESTERN MEDICAL ASSOCIATION AND EL PASO COUNTY MEDICAL SOCIETY

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September
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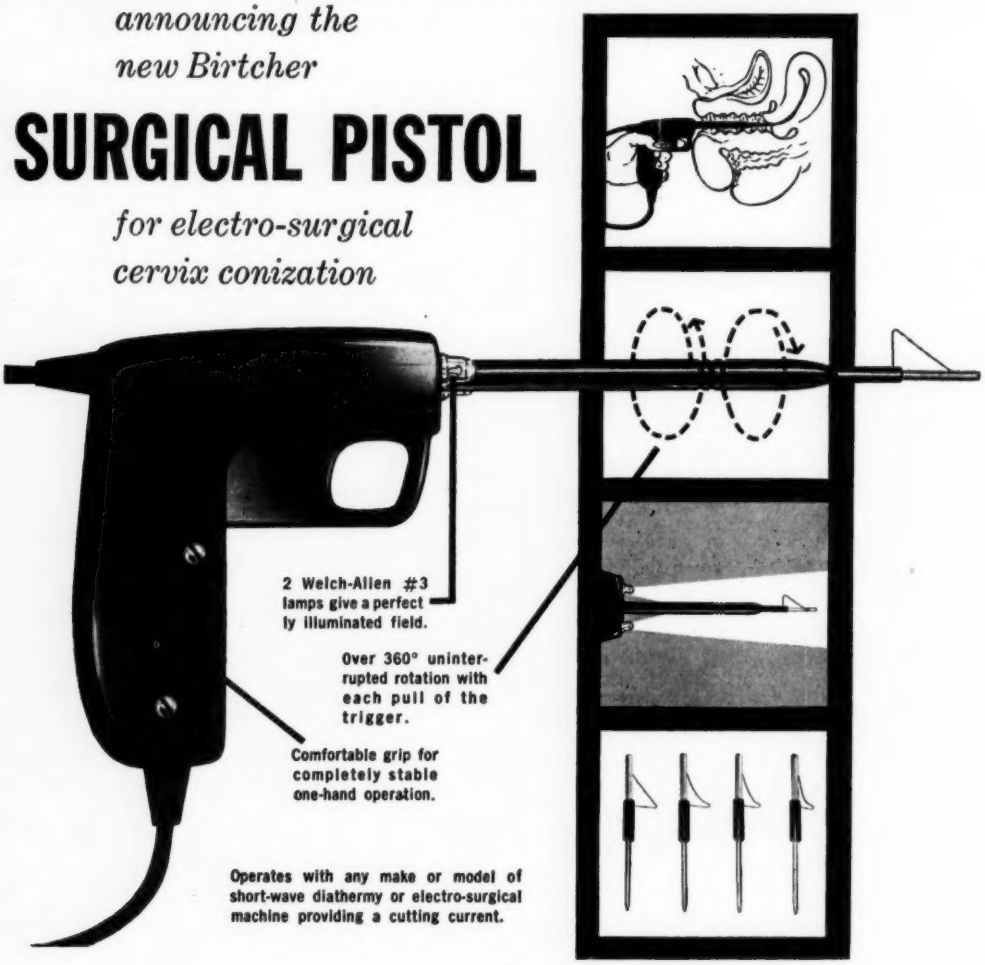
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Southwestern MEDICINE

VOL. XXXVI SEPTEMBER, 1955 No. 9

THE PRESIDENT'S COLUMN

Some Problems of the Uninsured

By Joseph Bank, M. D., Phoenix

Certain concepts of prepaid medical care have been accepted as valid guides in present day thinking about medical plans. Thus it is believed by most that the responsibility of paying for medical care rests primarily upon the individual who receives it. High quality hospital and medical care should be made available to everyone. Through prepayment health plans most people have the means to acquire such service. In the development of Blue Shield service, the principle of the ability of the patient to pay is recognized and special schedules for low income groups have been set up. This idea is in keeping with time honored medical practice, and is a practical recognition of economic facts.

Dr. Bank

The principle of group insurance makes it possible for every participant to pay for what he gets. In this manner the practice of the paying patient paying for the non-paying one will operate in an increasingly lessening degree. This adjustment of medical cost to the pocketbook of the individual is not applicable to those now dependent upon charity and free medical care. For many of these people not able to pay the full cost of prepaid health service, local government provides free hospital care, and to some extent, hospitals accept partial payment. Medical service by physicians is supplied gratis by staff membership in public or teaching hospitals.

Aged Persons

There is another group unable to join any voluntary health insurance, and that consists of aged persons living on limited incomes. As a group the aged require more health services than the remainder of the population. Furthermore, this group is constantly increasing, making the providing of health care a burden of growing proportions.

The temporarily unemployed present a health need for different reasons. They need some mechanism which will continue their health insurance during periods of unemployment. The solution will require the cooperation of employers, health agencies, and government sources that provide unemployment insurance.

Physicians' Compensation

In all these groups considerable provision has been made in the field of hospitalization. Little or no plans exist for the compensation of physicians' services. The remedy, when found, as it must be, cannot be one of complete government aid, and control that would go with it. The principle of voluntary prepayment must be retained when the means are provided. Government planning must not substitute individual responsibility. The medical profession has done its share by the willingness to accept fee schedule reductions. Indeed, they have exercised praiseworthy reluctance in demanding increased fees comparable with payments to hospitals by Blue Cross to cover higher operating and construction expense. In the emphasis on providing good medical care at reasonable cost to the patient, the dignity and freedom of the profession should not be overlooked.

Clinical Notes

Relapsing, febrile, non-suppurative paniculitis (Weber-Christian's disease) is probably one of the collagen disorders. It is characterized by recurrent episodes of painful, inflammatory lesions in subcutaneous tissues over the body, associated with intermittent fever; occasionally viscera may be involved. These episodes may last only ten to fourteen days and recur at intervals for many years or they may last longer and occur frequently. There is usually a prompt symptomatic response to treatment with ACTH or cortisone, but this therapy has no apparent effect upon the underlying cause of the disease.

Extensive Program Scheduled for Southwestern Meeting in Phoenix, November 16-18

Extensive plans are nearing completion for the 37th annual meeting of the Southwestern Medical Association in Phoenix, Arizona, November 16th through 18th, according to Dr. Joseph Bank, president of the Association.

A record number of outstanding speakers are being assembled for the convention, which will have Phoenix as its location for the first time since 1950. Of particular interest will be the continued growth of Phoenix during the last five years. Splendid accommodations are available and visitors will be surprised at the lavish facilities now available in the booming Arizona city.

Eleven Speakers

A total of 11 speakers have been engaged for the scientific discussions scheduled on the well-rounded program. They are as follows:

Dr. H. L. Bockus, Professor of Medicine at the University of Pennsylvania School of Medicine.

Dr. L. Kreer Ferguson, Professor of Surgery at the University of Pennsylvania School of Medicine.

Dr. William E. Ehrich, Professor of Pathology at the University of Pennsylvania School of Medicine.

Dr. Edward H. Rynearson, Chairman of Sections at the Mayo Clinic.

Dr. Byrl R. Kirklin, Assistant Professor of Surgery at the Mayo Foundation, University of Minnesota.

Dr. I. V. Ponseti, Associate Professor of Orthopedic Surgery in the University of Iowa Department of Orthopedic Surgery, University Hospital, Iowa City, Iowa.

Dermatologist

Dr. J. Walter Wilson, Associate Professor of Dermatology at the University of Southern California School of Medicine.

Dr. John Webb, Professor of Pharmacology and Toxicology at the University of Southern California School of Medicine.

Dr. Reginald H. Smart, Associate Professor of Clinical Medicine at the University of Southern California School of Medicine.

Dr. Hans H. Hecht, Associate Professor of Medicine at the University of Utah College of Medicine.

Dr. Kenneth Roeper (Opthalmology) at the Northwestern University School of Medicine.

Many Subjects

Subjects for all of the speakers have not yet been determined but the following has been confirmed at this time:

Dr. Kirklin: The Treatment of Atrial and Septal Defects; Surgical Evaluation of Acquired Heart Disease (This will be a symposium with Dr. Hecht); Surgery for Occlusion and Aneurysms of the Aorta.

Dr. Rynearson: Clincial Disturbances of the Pituitary Gland; Which Goiters Are Best Treated with Surgery and Which By Radioactive Iodine; Real Versus Supposed Disturbances of the Endocrine Glands.

Dr. Wilson: Fungous Diseases; Delusion of Parasitosis.

Dr. Ponseti: Hip Disorders in Children; Complications of Fracture Treatment; Skeletal Lesions Produced by Amino Nitriles.

Dr. Kirklin has been on the surgical staff of the Mayo Clinic since 1950. A graduate of the Harvard University Medical School, Dr. Kirklin interned in the Hospital of the University of Pennsylvania and did postgraduate work in the Children's Hospital in Boston and in the Mayo Clinic.

Numerous Articles

Dr. Rynearson is the author of numerous articles in current medical journals and together with Dr. C. F. Gastineau wrote a volume on "Obesity" published by Charles Thomas and Sons of Springfield, Illinois. A graduate of the University of Pittsburgh Medical School, Dr. Rynearson has been a Consultant in the Division of Medicine at the Mayo Clinic since 1931. He is Professor of Medicine at the Mayo Foundation and head of the Department of Endocrinology and Metabolism at Mayo Clinic. He is a past president of the Endocrine Society.

Dr. Ponseti received his medical degree from the University of Barcelona in Spain and has been affiliated with the Department of Orthopedic Surgery at the University of Iowa in various capacities since 1941. He is the author of numerous papers. He is a member of the American College of Surgeons and the International College of Surgeons. He was an officer in Orthopedic service in the Spanish Army from 1936 to 1939.

Second In Arizona

The coming meeting will be the second in Arizona in three years for the Southwestern Medical Association. The 1953 meeting was held in Tucson and the 1954 gathering in El Paso.

Officers of the Association, in addition to Dr. Bank, are Dr. John H. Dettweiler, Albuquerque, president-elect; Dr. Earl Malone, Roswell, N. M., vice-president; Dr. Celso C. Stapp, El Paso, secretary-treasurer; and Dr. Louis Jekel, Phoenix, Dr. Maynard Hart, El Paso, and Dr. A. G. Herrera, Chihuahua City, all members of the Executive Committee.

CURRENT THERAPY

The Newest Treatment of Lupus Erythematosus from the Dermatologist's Viewpoint.

By H. D. Garrett, M. D., El Paso

(*Editor's Note: Dr. Garrett is writing Dr. Jack A. Bernard's column during Dr. Bernard's absence on vacation.*)

Lupus erythematosus remains one of the most difficult diseases to understand in its entirety. Most dermatologists feel that the chronic discoid, subacute and acute phases of this disease represent the same pathological process reflected differently according to the resistance of the patient. Further proof of this thesis lies in the observed transition of chronic discoid to subacute or the reverse of this pattern; other transitions may occur, also, in which the acute variety may develop following one of the other forms.

The cutaneous lesions of lupus erythematosus have always been for the dermatologist one of the most serious and difficult problems in therapy. Chronic discoid lupus erythematosus is one of the oldest dermatoses described in literature and the multitude of agents utilized in its treatment attest to the complexity in management of the disease. A list of the medications which have been employed, either internally or externally, in treating chronic discoid lupus erythematosus would include most of the known medicinal substances. Probably the most notable and more successful of the earlier remedies are the salts of the heavy metals, gold and bismuth. More recently, the steroid hormones, ACTH and cortisone derivatives, have proved beneficial in all varieties treated but most particularly of life-saving value in the treatment of the acute cases.

Etiology

Since the etiology of this dermatosis is not clearly understood, treatment has always been on an empirical basis for the major part. Several conditions are known to "trigger off" an exacerbation of lupus erythematosus in those individuals subject to the disease; included in these stimuli are excessive exposure to sunlight, changes in hormonal balance (e. g., pregnancy) and absortion from foci of infection. Whether these factors are primary or secondary in etiological significance is as yet undecided.

Inasmuch as many of the remedies employed in therapy possess the potentiality of producing effects more harmful than the morbidity of the condition being treated, the search for a method of treatment combining effectiveness and safety in administration has proceeded under the guidance of many excellent dermatologists. This constant clinical experimental study has in the last three years produced the most promising therapeutic advance yet recorded in the long range treatment of chronic discoid lupus erythematosus, as well as some cases of the subacute variety.

This success has come with the use of quinacrine hydrochloride and chloroquine diphosphate administered orally to those persons who are subject to exacerbations of this disease. Numerous reports attest to the effectiveness as well as the relative absence of toxicity of these compounds as used in this form of therapy. Quinacrine and chloroquine were originally anti-malarial medications but their use in the chronic and subacute forms of lupus erythematosus have broadened their scope greatly.

Chloroquine

Quinacrine possesses the disadvantage that the skin may become yellowish after a few weeks of administration; many patients object strenuously to such a medication and, for this reason, many dermatologists have discontinued the use of quinacrine and use chloroquine entirely. Chloroquine combines these good qualities: has very little toxic or side effect, is easily administered (orally), requires small dosage (one or two 250 mg. tablets daily), is inexpensive and is effective in a high percentage of cases.

The ordinary method of prescribing chloroquine is to have the patient take one tablet twice a day for 10-14 days and then reduce to one tablet daily for one to two months. Thereafter the patient may take ½ tablet daily as maintainence dose for several months.

Neither of these medications is a cure for lupus erythematosus but serve a very useful purpose by facilitating healing and reducing scarring in the chronic discoid variety. Of more importance is their ability to prevent exacerbations of both the chronic and subacute forms. Moreover, the morale of the patient, who may have had the disease for years without relief by treatment, is improved markedly.

The mode of action of these compounds in healing the lesions of lupus erythematosus is not known. This is not surprising in view of the lack of knowledge of the etiology of this group of diseases. The action of these medications in producing a protection against the injurious effects of ultraviolet may be a prime factor in their usefulness; however, this remains to be proven definitely.

(Continued on Page 413)

APHORISMS and MEMORABILIA

Miscellaneous Medical Truths and Concepts

(Continued)

By Andrew M. Babey, M. D., Las Cruces

55. "So it is just as well, if a patient reports that he gets indigestion from eating cucumbers, to resist the temptation to tell him we get it from eating sauerkraut. Matching symptoms with a patient may be fun, but it is hardly sporting, and one never knows where it will lead." Bird; *loc. cit.;* P. 288.

Fees

56. "A remarkable observation is that in medical school nothing is ever taught about the charging of fees. This omission, I think, is highly significant. It suggests that the confusion and embarrassment regarding fees extends to teachers, and that teachers blind themselves to the facts of the case and falsely conclude that fee-charging is not a problem." Bird; *loc. cit.;* P. 289.

57. "There is still another bit of knowledge that may help to make talking about money easier. This knowledge consists in the fact that everyone—not only doctors—is neurotic about money. And there is a very good reason why. Money is regarded neurotically because money is never simply an entity in itself. Money is never just money. Money has no integral value whatever (except in the case of certain forms of miserliness). Thus, money represents a thousand different things. It is particularly likely to represent whatever it is the individual most desires at the moment." Bird; *loc. cit.;* P. 289.

58. "When a doctor's bill amounts, say, to $200.00, that does not represent to the patient 200 unassigned, uncluttered dollars. What it means is three payments on his car, five weeks' grocery bills, half his bank balance, his year's insurance premium, a new TV set, four mortgage payments, four cases of whiskey, and many other things besides—new clothes, a kid's bicycle, storm windows, home repairs, and on and on. It does not matter exactly whether the patient has extra money or not. In every case the fee charged represents not just dollars but stands for concrete things." Bird; *loc. cit.;* P. 289.

Money

59. "Deeper connections with money lead back to childhood, when commonly parents never discuss money openly. It is kept secret, just as are sex and excretory functions. The individual thus commonly confuses money, feces, and sex, so that to talk about one is just as shameful as to talk about the others. As a result, whenever money is the topic, many other personal problems may be awakened." Bird; *loc. cit.;* P. 289.

60. "For these reasons, and in view of the fact that they affect alike both doctors and patient, it is logical to expect uneasiness and lack of clarity or worse whenever a discussion of fees is attempted." Bird; *loc. cit.;* P. 289.

61. "Awareness that he is not alone in his problem, that all doctors have some kind and some degree of trouble with money, and that all patients are troubled by the topic should add to the doctor's reassurance." Bird; *loc. cit.;* P. 289.

62. "If a patient remarks that the bill is large and that sickness is expensive, instead of arguing with him and pointing out all that he gets for his money or telling him that if he can afford a car, he can afford a medical bill—instead of taking this approach, it may be much more helpful and much more correct for the doctor to agree with the patient that, in fact, it is a lot of money and that sickness is very expensive indeed. Both comments by the patient are generally true, and if they are true, they need not be denied or refuted. The doctor need not feel responsible for what are facts. He does not make illness expensive, he simply must make certain charges in order to ensure for himself and his family an adequate living. (Of course if his fee is exorbitant, he should feel guilty. However, such a doctor rarely experiences guilt. It is the doctor who has presented a fair, carefully considered fee who is most likely to feel guilty.)" Bird; *loc. cit.;* P. 290.

Success

63. "As a general rule, success in talking about fees can be improved if at the very beginning of any discussion on the subject the doctor tells the patient frankly that talking about money is embarrassing and unpleasant to most patients, that even though both patient and doctor may wish to avoid such discussion, or to consider it unnecessary, there is a great advantage in coming to some understanding about what will be charged for what. It can be pointed out to the patient that he is going to get the best possible care, regardless of the fee charged him; but in order to avoid anxiety about medical costs, they should be discussed as often and as fully as circumstances warrant." Bird; *loc. cit.;* P. 290.

64. "A patient with sudden occlusion of a major peripheral artery calls in his doctor because the limb has become cold, pale, and perhaps numb, because agonizing pain has developed at rest, or because of the sudden onset of severe exercise pain (intermit-

tent claudication). The severity of the symptoms varies with the rate of occlusion of the vessel, which means that they are usually more pronounced when the vessel has been blocked by an embolus than when it thromboses." C. G. Rob; *British Medical Journal,* February 12, 1955; P. 407.

65. "If the part is kept cool, skin can withstand severe anoxia for 48 hours or more, muscle for 10 hours or so; nerve conduction ceases after about 30 minutes. Recovery from complete anoxia is much more likely after restoration of the blood flow if the part has been cooled. On the other hand, if the part has been warmed, blisters may form on the skin within 12 hours and muscle becomes gangrenous within a few hours." Rob; *loc. cit.;* P. 407.

Harm

66. "Heating the limb by blankets or hot-water bottles does much harm. It can be stated that a patient who receives no treatment at all is better off than one whose limb has been either heated or elevated." Rob; *loc. cit.;* P. 407.

67. "Carbon dioxide should not be administered with oxygen in the resuscitation of subjects requiring and receiving artificial respiration." Editorial; *Brit. Med. Journ.;* February 19. 1955; P. 469.

68. "If we try to visualize what a patient's mental image of a "slipped disk" must be, it is not very difficult to appreciate his anxiety and lack of faith during the conservative treatment of an intensely painful attack of lumbago . . . . . True pathology is nothing like what the term "slipped disk" suggests, and it is well to remember that the medical profession never invented this term, which seems to have grown up in the popular press." John Charnley; *Brit. Med. Journ.;* Feb. 5, 1955; P. 344.

69. "There is evidence to show that the nucleus pulposus can swell by the uptake of fluid and that in this process it can generate internal pressures probably high enough to cause pain." J. Charnley; *loc. cit.;* P. 344.

70. "For reasons as yet unknown the pulpy nucleus can sometimes suddenly acquire access to more fluid than normal, and the rise of internal tension so produced is felt by the patient as a stiffness of the back. If the condition is acute the back muscles may go into guarding spasm and a moderately severe attack of lumbago or fibrositis is produced." J. Charnley; *loc. cit.;* P. 345.

Substance

71. "It is not well enough realized that the substance of the intervertebral disk is a unique tissue and that there is no reason to believe that its swelling, shrinkage, degeneration, and rupture are governed by the ordinary processes of inflammation and repair. It is a totally avascular substance, and, like the meniscus of the knee-joint, once ruptured it is probably incapable of repair. Though we customarily prescribe rest, and often fixation (by analogy with ordinary processes of inflammation), there is no proof that this shortens the period of three or four weeks which is often needed before symptoms of an acute disk episode subside." J. Charnley; *loc. cit;* P. 346.

72. "There is evidence to suggest that movement is favoured by nature, because many patients in very severe pain cannot tolerate immobilization and prefer to be constantly changing their position, never remaining quite still for more than a few minutes at a time." J. Charnley; *loc. cit.* P. 346.

73. "The commonest error is to underestimate the duration of acute pain—far more often than is realized an acute attack will persist for over three weeks. During this time all that can be done is to sedate, apply heat, and recommend rest." J. Charnley; *loc. cit.;* P. 346.

74. "The initial intensity of the pain is no measure of the need of surgery; and in any case, speaking generally, in a first or second attack one would never recommend surgery until at least three months of disability had been present." J. Charnley; *loc. cit.;* P. 346.

Risk

75. "I will take the risk of saying quite categorically that there is no evidence to suggest that an attack of lumbago which has been "untreated" or "neglected" in its early stages could have been prevented from later passing into a full disk protrusion by "treatment" . . . . . With the obvious exception of attempting to lift heavy weights or to work too early in a fully bent position, I believe this opinion should be firmly and widely voiced in the popular press." J. Charnley; *loc. cit.;* P. 346.

76. "The importance of a cheerful and even a light-hearted approach by the physician cannot be too strongly emphasized. It is much healthier for the patient's attitude to future recurrences of back trouble, which in some measure is almost certain to occur from time to time, to try to regard lumbago as the sort of music-hall joke it used to be ten or twenty years ago. This does not mean that the practitioner need be insensitive and heartless, but that well—meaning but over—conscientious worry about "slipped disks" does not help the patient in the early stages of an acute attack." J. Charnley; *loc. cit.;* P. 346.

77. "All doctors suffered to a considerable extent because they were expected to work magic; when their magic was successful they were irrationally praised, and when it was unsuccessful they were equally abused." Denis Williams; *Brit. Med. Journ.;* Feb. 26, 1955; P. 533.

MONTHLY CLINICAL PATHOLOGICAL CONFERENCE
EL PASO GENERAL HOSPITAL

JULY 21, 1955

BY FREDERICK P. BORNSTEIN, M. D., EDITOR — CASE NO. A-474
PRESENTATION OF CASE BY DR. JAMES D. BOZZELL

History

An eighty year old widower, retired bookkeeper, clinic patient was admitted to El Paso General Hospital for his third and final admission on May 27, 1955, because of abdominal pain, difficulty in voiding and bloody urine.

In 1920 he had suprapubic surgery to relieve lower urinary tract obstruction. The first admission to this hospital was in 1953 for removal of a hydrocele sac which had increased in size over a fifteen year period until it impeded walking. In February, 1955, the patient came to Urology Clinic because of "stricture," and for this reason as well as dysuria and bloody urine he was admitted for the second time in February, 1955. A #12 catheter following a ferret was inserted through the urethra into the urinary bladder with some difficulty after an unsuccessful attempt to pass a sound. Ability to void improved, the urine ceased being bloody, and the patient was discharged after five days to be followed in clinic. Three months later, in May, 1955, the patient returned for his last admission with complaints of inability to void, passing blood from his urethra, and suprapubic pain for three days. There was neither vomiting nor tenesmus. Past and family history and system review were not contributory.

Chronically Ill

The patient appeared chronically ill. Temperature 98.8, pulse 96, and blood pressure 120/90. There was poor oral hygiene. The skin appeared icteric. Positive physical findings were otherwise confined to the abdomen, which was tympanitic, tender diffusely and in the CVA regions, with an old surgical suprapubic scar, and slightly hyperactive bowel sounds. There was a clay-colored stool on the rectal glove.

A #12 hollow sound behind a filiform catheter and #14 and #16 catheters were passed with difficulty. The catheters came out repeatedly and apparently there was none present during the last three days. On the second hospital day opaque medium was injected into the bladder and was seen on film to fill the left ureter, which was dilated, elongated and kinked, and the left renal pelvis, which showed blunted calices. Wangensteen suction with a Cantor tube was instituted because of vomiting and was in place during most of the patient's hospitalization except for several periods when oral intake was attempted but stopped because of vomiting. Severe, unrelenting lower abdominal pain was not entirely relieved by Demerol every four hours. Surgical consultants advised digitalization, mineral oil, gastric suction, enemas, and parenteral fluids. Stools were subsequently described as hard and foul-smelling. The temperature on several occasions rose less than one degree above average but went up to 103 (R) on the last day. Pulse varied between 80-120, respirations 16-32. In addition to Demerol and Cedilanid, medications included Nembutal, Thorazine, Prostigmine, Pyridium and Gantrisin. Daily urine output exceeded 300 cc. only once. The urine was several times described as appearing "strong and very yellow" and containing "jelly-like material." On the tenth hospital day the pulse became rapid, respirations increased in rate then slowed, blood pressure dropped and the patient expired one hour after his last enema.

X-Ray Reports:

October 26, 1953: "Healthy chest."

May 28, 1955: Survey film of abdomen: A large amount of gas scattered throughout both the large and small bowel consistent with an adynamic ileus, advanced degenerative changes of the lumber spine and pelvis, bilaterally obscured psoas shadows and properitoneal fat lines, prostatic calculi.
Another film was reported with the conclusion: "Hydronephrosis with accompanying hydroureter and bladder diverticulum."

Laboratory Findings:

May 23, 1953: Urinalysis: 1.012, alkaline, straw-colored, albumin trace, sugar negative, WBC 3-4/LPF, RBC 5-6/LPF.
Hb. 12.7 gms. RBC 4.02, WBC 5,150, segs. 55, lymphs. 34, monos. 9, eos. 2.
BUN 22.5 mg. per 100 c.c.; acid phosphatase 0.1 units; alkaline phosphatase 1.0 units.
Kline exclusion negative.

February 21, 1955: Urinalysis: 1.005, alkaline, dark amber, cloudy, albumin heavy trace, sugar negative, no report on WBC and RBC.
Hb. 9.9 gms. RBC 3.1, WBC 8,900, segs. 74, lymphs. 24, monos. 1, eos. 1.
Kline exclusion negative.

May 28, 1955: Urinalysis: S.G.-QNS, alkaline, straw-colored, albumin 1 plus, sugar negative, WBC 3-5, RBC 8-15.
Hb. 9.4 gms. RBC 3.55, WBC 9,200, segs. 83, lymphs. 16, stabs. 1. BUN 27.5 mg. per 100 c. c. Kline exclusion negative.

X-Ray Discussion

Dr. C. C. McVaugh:

Examination of the chest in October, 1953, shows nothing but a slight increase in the pulmonary markings and cardiac contour. The second examination was done in May, 1955. The films are of the abdomen, and show a large amount of gas in the small bowel. There is a transverse pattern throughout the small bowel, and although this has more the characteristics of a paralytic ileus, I think an early bowel obstruction has to be considered in this type of pattern. There is also an obliteration of all markings due to uniform haziness which appears to be due to an ascites at this time.

The cystogram shows the urinary bladder to be filled. There is reflux into the left ureter with a dilated left ureter and a left hydronephrosis. On these films the appearance is more of a paralytic ileus than a bowel obstruction. There appear to be diverticula of the urinary bladder, especially on the right side. The urinary bladder does not have a completely regular outline. I see multiple diverticula, but I see no definite filling defects. I cannot see any definite source of bleeding in this cystogram. Other than hydronephrosis, the left kidney appears normal. There is a slight irregularity of the bladder on the right inferior aspect, the significance of which I don't know. There is, you will note, some sclerosing of the os pubis bilaterally and I notice from the history sheet that this patient has had a previous suprapubic prostatic operation. An osteitis pubica occurs following urinary surgery and sometimes after cystoscopic examination.

Examination of Abdomen

The third series of films was taken in June, 1955. This is a series of examinations of the abdomen. These reveal nothing additional. There is apparently a tube in the stomach. There is less small bowel distention than at the previous examination. There is still evidence, I think, of fluid in the abdomen. The properitoneal fat lines are gone, the muscle shadows are gone, the kidney shadows cannot be identified and the liver and spleen cannot be identified. I can see no evidence of a destructive lesion involving the visible skeletal structures. I see no evidence of prostatic metastases or an osteolytic metastases. So, in summary, I think these films tell us only that this man probably had a paralytic ileus, although as I say, I believe an incomplete, early, small bowel obstruction has to be considered. There is a diverticulosis of the urinary bladder with reflux into the left urinary tract which indicates obstruction at the outlet of the bladder, ascites, and an osteitis pubica, probably resulting from the previous surgery. The ascites may, of course, be due to many causes: sclerosis, obstruction, metastases to the peritoneal surfaces, etc.

Differential Diagnosis

Dr. James D. Bozzell:

I checked this history just enough to make a few corrections. First, it is noted that this man had suprapubic surgery in 1920, probably a subtotal prostatectomy. We therefore have to consider that there is some prostate remaining.

The history becomes confusing when he first came to the clinic in 1955 with a stricture. A great deal of difficulty was encountered at that time in dilating him which caused a great deal of bleeding. I think he was admitted to the hospital for the bleeding caused by the attempted dilatation. At his third and final admission I obtained the following history. He was admitted to the hospital and had been here 24 hours. The boys had tried to get various types of sounds and catheters into him. This started quite a bit of bleeding, so they called me down here on a late Saturday afternoon. The history showed that he had lower abdominal pain and had been unable to urinate, but there was no mention of blood as far as I know until the manipulation had been attempted. Now you may wonder why a cystogram was obtained. The intern on the case thought that he had possibly poked a hole through the bladder and the cystogram was made at that time because we felt that he might have an extravasation. There was, however, no evidence of extravasation on this film.

Now this reflux that you see on the left is not too remarkable. It simply means an incompetent ureteral valve, and you frequently see that in both the young and the old. When I saw this man I had a good deal of difficulty in catheterizing him. We started with number twelves and continued to dilate him until we finally got a number sixteen Foley into him and made this cystogram. He had a very tense abdomen and it was board-like. I thought that he probably had a surgical belly, so we asked the surgeons to see him. That's the last I heard of this patient until Dr. Bornstein called me and asked me to discuss the autopsy.

Need For Cystoscoping

There's a lot to be learned here because this fellow wasn't handled right. If he had blood in his urine in February and then again in May, the diagnosis could probably very easily have been made if he had only been cystoscoped, but that was not done. The one thing to be learned from this case is that anyone who has gross blood in the urine should be cystoscoped. If you all can remember that for the rest of the year, that will be good.

Now, as far as the differential diagnosis of hematuria is concerned, we have to think of first, infection, because this man without question had a very long standing urethral stricture. It probably dates back to his suprapubic surgery. He also has bilateral hydronephrosis and a hydroureter. One BUN was obtained and it was moderately elevated, so he had some degree of azotemia, but not enough to assume that he died with uremia. Another thing that you have to think of in long standing urethral stricture is carcinoma. It is very common for men who have

strictures for many years to develop a carcinoma of the urethra. With blood in the urine you also have to think of cancer of the bladder and of the kidney. We have a good X-ray picture of the left side, and you can pretty well say that there's no carcinoma on the left, but we have nothing to go on the right side. He might have something in that right kidney that would be the source of the bleeding.

Now another diagnosis could possibly be non-opaque stones. The patient is cystoscoped and you see a whole bladder full of stones which are of low density and don't show up on X-ray.

We notice that the daily urine output was never above 300 cc. and I assume that the patient was adequately hydrated during this period. That makes you think that he probably had renal insufficiency. Another matter that I didn't know about, not mentioned in the protocol, is the development of fluid in the abdomen. Apparently it developed during his stay in the hospital and this suggests some malignant condition with possible metastases to the peritoneal cavity. The diagnosis that we can definitely be sure of, I think, is the most obvious: urethral stricture with bilateral hydronephrosis. He probably died a uremic death in spite of this first BUN of only 27.5.

Dr. Jack C. Postlewaite:

The outstanding thing, I believe, that the protocol aimed at was the possibility of a hepato-renal syndrome. This is an acute death and I don't believe that we are through when we diagnose the primary condition. From the standpoint of death, this man died of something that happened generalized. Now the abdominal situation is important. It is similar to a problem that Dr. Gibson and I saw a couple of weeks ago. We had a man who had prostatic manipulation and died with cyanosis, respiratory difficulty and 35,000 white count. He had something that I should have recalled from training days, a septicemia of a gram negative bacillus which gives some sort of a reduction process of the blood in which cyanosis persists. The interesting thing is this form of cyanosis does not respond to oxygen therapy or digitalization and the course is relentlessly downhill. In fact they have the renal syndrome which, as far as I'm concerned, is a shock stage. It may be preceded by a renal disease or by a hepatic disease.

This man had a clay-colored stool. I believe this is as valid as a laboratory test with regard to obstruction. Then he developed foul-smelling, dark stools. That is almost characteristic of blood in the gastro-intestinal tract and brings to mind the end result, or terminal state of a hepato-renal syndrome. I'd like to keep in mind the possibility of fluid shifts, infection possibly septicemia with multiple abscesses of the liver, lungs and brain. His terminal state was the shock-like picture of renal exhaustion and an end result of possibly septicemia caused by the manipulation that was done on his admission.

A physician:

Why was this patient digitalized?

Dr. F. P. Bornstein:

I have a sneaking suspicion that there is a conditioned reflex with ascites and digitalis, and kidney disease and gantrisin.

Dr. Pablo Ayub:

It's probably true that this patient died in shock. I'd like to introduce the possibility of a terminal gross bleeding in some place, that perhaps this patient had some kind of cancer, or some kind of tumor, or even an abscess that could have caused the gross bleeding.

Dr. William Gaddis:

Well, it seemed to me from the examination on this record that with a patient who appears to be icteric we've overlooked something that we possibly should have seen. Obviously someone was looking for some of the metastatic lesions of prostate by checking the phosphatases which were not markedly changed from normal, but why was the man icteric? Was there hemolysis or was it obstructive type jaundice? Was it just from pallor? I'm wondering if we might not have overlooked a generalized process within the peritoneal cavity which possibly should have been looked at, not through Dr. Bozzell's cystoscope, but by direct vision. He had some of the findings of paralytic type ileus, cause undetermined. Why was it paralytic? Was it secondary to his urinary troubles? Was he unable to have bowel movements or to pass away this gas simply because he had urethral stricture? Well, we don't know the answer now. But I have a feeling that we're dealing with a metastatic carcinoma which has become implanted over the peritoneum in such a way as to cause intestinal obstruction and that this was the cause of the man's death and not his primary urinary troubles for which he was admitted.

Clinical Diagnosis

1. Urethral stricture.

Dr. Bozzell's Diagnosis

1. Urethral stricture with bilateral hydronephrosis.
2. Uremia.

Anatomical Diagnosis

1. Hydronephrosis, bilateral, due to old urinary stricture.
2. Carcinoma of the upper third of the urinary bladder with direct extension to the peritoneum.
3. Peritoneal carcinomatosis.

Pathological Discussion

Dr. F. P. Bornstein:

On autopsy we found an elderly, well nourished man who was slightly icteric. The abdomen was pro-

minent. There was an old scar running from the umbilicus to the symphysis pubis. Upon opening the abdomen, we found about 5000 cc. of straw colored fluid. We will discuss the nature of the ascites after presenting the findings in the kidney and urinary bladder.

The left kidney weighed 60 gm., the right kidney weighed 150 gm. Both kidneys showed the typical gross findings of a chronic pyelonephritis. In addition the renal pelves and ureters were dilated. However, probes inserted into the ureters easily entered the urinary bladder indicating that the urinary obstruction was in the urethra. Upon inspecting the urinary bladder, we found a firm, grayish-white, papillary tumor which measured 5 cm. in greatest diameter. This tumor was located in the vertex of the urinary bladder. The tumor had penetrated the entire wall of the urinary bladder and had extended directly into the peritoneum. The entire peritoneum was studded with tumor nodules which were especially frequent on the surface of the intestines in the region of the ileocecal valve, on the posterior wall of the sigmoid and in the pouch of Douglas. Obviously this peritoneal carcinomatosis was responsible for the ascites. On microscopic examination, the tumor proved to be a very anaplastic, primitive carcinoma arising in the urinary bladder.

We are dealing here with two separate and distinct disease processes. One has been a urinary tract lesion of long duration which has been responsible for the chronic pyelonephritis and the low grade hydronephrosis. Superimposed upon this lesion has been a fairly recent carcinoma of the urinary bladder. Carcinomas of the urinary bladder rarely metastasize. If they do so, it is usually because they invade the prostate, and then the spread is identical with the spread found in primary prostatic carcinomas. The other mode of spread, an even less common form of metastases, is present in our case where the carcinoma has directly invaded the peritoneum and then produced a generalized peritoneal carcinomatosis.

We are presenting again, as last month, a case where an organ system has been involved in a chronic disease. Last month it was the respiratory system. In both cases the disease had become complicated by a carcinoma developing in the same organ system.

A Physician:

Was the carcinoma responsible for the hydronephrosis and urinary symptoms of the patient?

Dr. F. P. Bornstein:

No the carcinoma was located in the vertex of the urinary bladder and as we demonstrated before, both urethral openings were free of carcinoma.

Clinical Notes

Weakness is a common complaint in patients with aortic stenosis, because of the inability of the heart to increase its output in response to the needs of exertion.

Southwestern Radiologists Form Regional Society

Southwestern radiologists have formed The Southwestern Radiological Society to meet periodically for dinner and review and discussion of interesting cases met in their practice. Next meeting will be at 6:30 p. m., Monday, September 12, for dinner at Hotel Paso del Norte in El Paso. The first meeting was held July 8, 1955, and the second was held on August 8, 1955.

Each radiologist brings x-ray films concerning one or more of his cases. All present are invited to discuss the films and present their own conclusions. When discussion is finished the physician presenting the films informs the group as to the surgical or pathological findings. Only proved cases are acceptable for presentation.

Members Listed

The following physicians have attended sessions: Col. Fred W. Seymour and Maj. John M. Higgason, both of William Beaumont Army Hospital; Drs. Juan Asomoza, E. Contreras Zamora, Abraham Gonzales Vargas, all of C. Juarez, Chihuahua, Mexico; Dr. E. K. Neidich, Las Cruces, New Mexico; Drs. Charles McVaugh, Ralph S. Clayton, Gordon L. Black, Nathan Kleban, Vincent M. Ravel, and Delphin von Briesen, all of El Paso.

Any Southwestern physician interested in attending these meetings can obtain details from Dr. Gordon L. Black, Medical Center, 1501 Arizona Street, El Paso, Texas. No officers have been elected, but Dr. Black is acting as secretary.

The Newest....

(Continued From Page 407)

The principal fact remains, namely, that the administration of quinacrine hydrochloride and chloroquine diphosphate has been more effective than any other previously-employed medication in the treatment of chronic discoid lupus erythematosus and, at the same time, has produced less difficulty in the management. Moreover, the utilization of these compounds during the subacute phase offers much hope for preventing progression to the acute phase. Whatever the mode of action proves to be, the most important consideration to the physician is the good result obtained.

San Diego Postgradute Assembly Scheduled September 21-22

The ninth annual postgraduate assembly of the San Diego County Hospital will be held at the hospital on Sept. 21 and 22. Reservations should be made with Dr. Howard B. Kirtland, Jr., 3505 Fourth Avenue, San Diego 3, California.

ORIGINAL ARTICLES

Leukoplakia of the Renal Pelvis*

By Robert F. Thompson, M. D., F. A. C. S., El Paso

Leukoplakia of the renal pelvis or squamous metaplasia, as some pathologists prefer to call it, is a rare and interesting condition. When it is realized that the normal transitional epithelium of the pelvis undergoes a radical change and become squamous in type with cornification—that in effect ectodermal skin replaces entodermal mucosa of the inner lining of the kidney—this histological paradox is very thought-provoking. The lesion is considered definitely pre-cancerous.

Historical Note and Incidence

Squamous metaplasia of the mucous membrane was first described by Rokitansky in 1861. He called it cholesteatoma. Ebstein in 1882 first described leukoplakia of the renal pelvis. Beer recognized the first case in this country in 1914. McCrea discovered that it was not found in 46,928 autopsies at the Philadelphia General Hospital in a twelve-year period; nor was the diagnosis made in 251,578 patients who were discharged from the institution during the same period of time.

Outstanding contributions on the subject were made by Kretschmer in 1920 and by Hinman, Kutzmann and Gibson in 1924, followed by Kutzmann's admirable report in 1929 at which time he collected 67 cases from the literature to which he added one more. In 1936 Taylor reported a total of 72 cases including the one he described. Since then single instances have been reported by Landes and Hamlin (1954); Falk (1954); Senger, Bottone and Kelleher (1951); McCrea (1950); Keesal and Rosner (1950); Low and Coakley (1948); Armstrong, Harlin and Fort (1950); and Scholl (1940). From the foreign literature, since 1936, there have been 15 references to the condition under consideration making a total of 95 cases in the literature at the present time. The case to be reported is presumably the ninety-sixth case.

Etiology

The exact cause of leukoplakia of the renal pelvis is not known. It has been of great interest to pathologists for many years. This is because of its obscure etiology and pathogenesis. The urinary tract embryologically is of mesodermal and entodermal origin. However, a leukoplakial process produces a structure resembling skin, which is an ectodermal derivative.

There are three theories concerning the etiology of leukoplakia of the renal pelvis.

1) Haythorn's theory considers the process of metaplasia and cornification to be produced by long-standing irritation and infection.

2) The theory of Lecene is based on embryology. It considers the leukoplakial process to be produced by misplaced embryonal rests of the primitive ectoderm.

3) The theory of Vitamin A deficiency which has not received enthusiastic support from most authors. However, it is noteworthy that Wolbach and Howe, working with rats, produced lesions in the urinary tract, similar to leukoplakia, by employing diets deficient in vitamin A. Further, these lesions were made to disappear when vitamin A was restored to the diet.

Pathology

The basic pathology is a squamous metaplasia of the epithelium of the renal pelvis and calyces with keratinization. It becomes thickened as cornification takes place. Upon sectioning the kidney, a definite membrane will be found. When this is removed the underlying tissues will display a papillary surface. This membrane may cover the entire interior of the renal pelvis (this was true in the case to be reported) or in some instances it may be present in scattered patches. Microscopically, these patches have the appearance of normal skin, with an area of leukocytic infiltration beneath.

Leukoplakia of the renal pelvis is definitely considered as a precancerous lesion. Squamous cell carcinoma has been observed to develop on the site of leukoplakia in the urinary tract on numerous occasions. Patch, Taylor and Potts have each studied this aspect of the condition and have commented on the association of the two conditions. In 1932 Potts reported a case associated with squamous cell carcinoma and calculus.

Diagnosis

The diagnosis is seldom made preoperatively. Most cases have been found after the removed kidney was sectioned, or at autopsy. Tuberculosis of the kidney may be suspected. This is the condition which most often lends confusion to the differential diagnosis despite the fact that leukoplakia of the renal pelvis usually occurs in a group, middle-aged to elderly, while renal tuberculosis usually is seen in adolescents.

* Presented at South Central Section, American Urological Association, Colorado Springs, Colorado.

Severe pain and colic may be produced by obstruction in the ureter by desquamated epithelium and clinically this may suggest calculus or stricture.

The usual clinical picture is that of long-standing urinary infection with frequent exacerbations, pain in the kidney area, chills, fever, pyuria, dysuria and urgency. The retrograde pyelogram gives a very characteristic picture. It is a mottled, radiolucent filling defect with peculiar linear markings, entirely different from the appearance of other types of pyelogram. Although the outline of the pelvis is fairly regular, it has a "moth-eaten," "fractured" appearance, produced by the presence of dark shadows and the strange linear markings.

Upon cystoscopy, the drippings from the ureteral catheter suggest the presence of leukoplakia of the renal pelvis by extreme purulence and the presence of much debris or "grity flakes." The demonstration of cornified squamous epithelium plaques in the urine is definite evidence of the presence of the condition.

Few cases are recognized before surgery, as previously stated. However, this is possible if the case at hand presents the following:

1) History of long-standing urinary infection with exacerbations.

2) Characteristic mottled, radiolucent filling defect of renal pelvis as seen in the pyelogram, revealing "moth-eaten" or "fractured" appearance.

3) Passage of purulent urine with flaky debris or "gritty flakes."

4) Demonstration of cornified squamous epithelium in the urine.

Treatment

The diagnosis is made in only a few cases before operation. However, if this can be done, and the condition is unilateral and since there is a definite inherent tendency of leukoplakia of the renal pelvis to undergo malignant changes, the treatment is nephrectomy.

Case Report

P. M., a woman aged 40, was first seen on October 15, 1952, with the symptoms of a severe urinary infection characterized by dysuria, frequency, chills, and fever and pain in the left kidney. There was a history of severe pyelitis during both of her recent pregnancies, 18 months and 2 months previously.

Cystoscopy and pyelography revealed marked infection of the left kidney. The pyelogram of the left kidney was not particularly remarkable at this time. A mixed bacterial flora was found in the urine with the colon group predominating.

Upon the lavage of the left kidney and the institution of antibiotic therapy, she was greatly benefited and was not seen again for almost a year. Then she came to us again with a severe urinary infection, and on August 10, 1953, cystoscopy and pyelography were

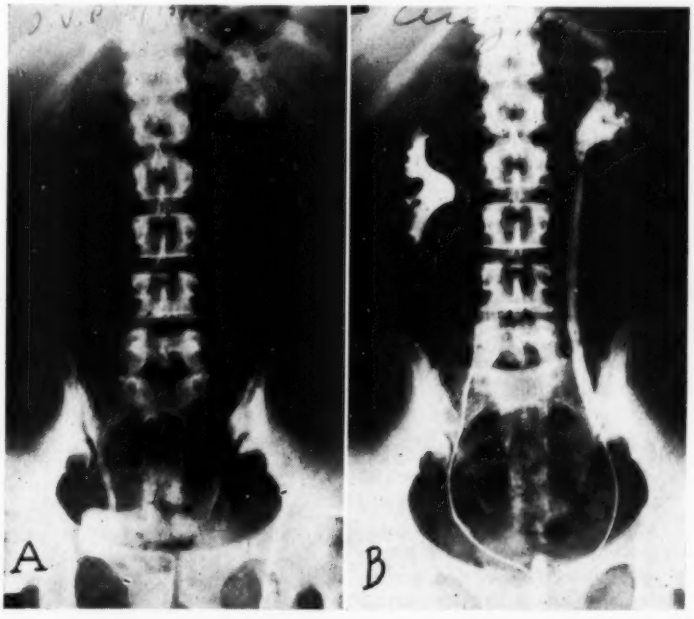

Fig. 1. A, excretory urogram showing good function of both kidneys but with filling defect of left pelvis similar to that found on retrograde pyelography. B, retrograde pyelogram showing mottled radiolucent filling defect of left pelvis and calyces with "fractured" and "moth-eaten" appearance and strange linear markings, yet with distinct outline.

performed. Once more, severe infection of the left kidney was found, and a very bizarre pyelogram of the left kidney was obtained with a mottled, radiolucent filling defect and a peculiar "moth-eaten" appearance with strange shadows and linear markings. This most unusual pyelogram was entirely different from anything ever observed before (fig. 1, B).

An excretory urogram made August 13, 1953 gave essentially the same bizarre findings concerning the left kidney with evidence of good function. The right kidney was essentially normal in appearance and with excellent function (fig. 1, *A*). On August 20 a No. 10 catheter was passed to the left kidney. The drippings were purulent and contained a whitish, flaky debris.

She was materially benefited by the two lavage treatments and the institution of antibiotics and she insisted on leaving the hospital due to the illness of her two small children. She was not seen until a month later when she visited the office very sick, with high fever, chills and marked pyuria. There was exquisite tenderness over the left kidney. She was sent immediately to the hospital and the kidney was drained again, cystoscopically.

Another retrograde pyelogram disclosed the same unusual filling defect of the left kidney. The drippings from the left side were again very purulent and contained flaky debris. A mixed group of organisms was found, as before. Tubercle bacilli could not be identified. This time she failed to respond to the renal lavage and medication, and the septic type of fever persisted. It was decided to explore the left kidney.

On September 16, 1953, under spinal anesthesia, the usual lumbar incision was made and the left kidney was exposed and separated from very dense inflammatory adhesions. Multiple abscesses were observed and the general appearance of the kidney was poor. Nephrectomy was performed.

Following the operation, the very high septic course of temperature continued for two days and then it returned to normal and remained normal henceforth. The wound headed speedily and she left the hospital on the thirteenth post-operative day.

She reported for periodic examination regularly and has remained well and without complaint to date.

Pathological report: The gross specimen is a left kidney measuring 12 cm. by 8 cm. by 6 cm. The kidney is of soft consistency. The capsule strips with ease leaving a pinkish-gray nodular surface. Tiny yellow abscesses are seen in the renal parenchyma. The pelvis and calyces are covered with a thick, grayish, wrinkled, parchment-like membrane. This membrane can be lifted completely from the inner surface of the kidney (fig. 2).

Microscopic: The section from the kidney shows numerous, irregular abscesses in the renal cortex.

Fig. 2. Section of kidney showing membrane and multiple abscesses.

The abscesses are composed of necrotic material and are surrounded by a zone of tissue which is densely infiltrated with inflammatory cells mostly lymphocytes and plasma cells. A section taken from the renal pelvis again reveals a severe inflammatory process and shows evidence of marked squamous metaplasia. There is extensive keratinization, and this keratinization has produced the inflammatory membrane mentioned in the gross description (fig. 3). Diagnosis: Squamous metaplasia marked, with extensive keratinization (leukoplakia of renal pelvis); multiple abscesses; chronic pyelitis.

Summary

Leukoplakia of the renal pelvis is a rare condition, but very probably many cases are overlooked and treated as severe infections.

The etiology is obscure, but as severe prolonged infection, with exacerbations, usually precedes leukoplakia of the renal pelvis, this is presumed to be the cause, yet the theory of misplaced embryonal rests of primitive ectoderm, and the theory of vitamin A deficiency must be considered.

The diagnosis of leukoplakia of the renal pelvis is seldom made preoperatively, yet this is possible with the history of long-standing infection, the pre-

Fig. 3. Photomicrograph, low power, showing renal pelvis covered by squamous epithelium and fragments of amorphous membrane. Marked keratinization is noted in squamous epithelium. It has formed numerous filiform projections.

sence of the typical pyelogram, and the passage of desquamated, cornified, squamous epithelial flakes in the urine.

Since the condition has an inherent tendency to undergo malignant changes, it must be regarded as precancerous.

The treatment is nephrectomy, if the condition is unilateral.

A case of leukloplakia of the renal pelvis is presented which is presumably the ninety-sixth recorded instance of this lesion.

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Southwest Ob-Gyn Speakers Announced for El Paso Meet

Speakers have been announced for the annual meeting of the Southwest Obstetrical and Gynecological Society, which will be held in El Paso, Texas, October 28 and 29.

On the agenda are Dr. Arthur Hertig, Professor of Pathology in the Boston Lying In Hospital and in the Department of Pathology at the Harvard University School of Medicine; Dr. Carl Javert, Professor of Obstetrics and Gynecology at the Cornell University School of Medicine; and Dr. Richard Torpin, Chairman of the Department of Obstetrics and Gynecology at the Medical College of Georgia.

Physicians from Southern California, Nevada, Arizona, New Mexico and El Paso County are members of the Society. Dr. Celso C. Stapp of El Paso is President.

Clinical Notes

Aplastic anemia is becoming more and more common. Some cases are due to exposure to toxic chemicals such as benzol, or drugs such as chloramphenicol (chloromycetin), gold, arsenic, sulfonamides, and nitrogen mustards, or to excessive contact with x-ray or radioactive chemicals. In many cases, however, no cause can be ascertained, and, in general, these are the most serious types. Therapy with bone marrow stimulants such as cortisone, corticotropin, cobaltous chloride, testosterone and bone marrow transfusions is usually ineffectual. Repeated transfusions may be given but these usually eventuate in hemosiderosis (excessive iron deposition in the tissues) with its accompanying cirrhosis of the liver.

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Accident Prevention in Childhood

By E. W. Lander, M. D., Roswell, New Mexico

A fairly large percentage of medical practice today is concerned with the element of prevention, and this applies even more so to accidents, especially in childhood. But, you say, "What can I do about it?" or "Accidents are accidents — they just happen." Actually there is great deal that can be done about this complex but not insurmountable problem. Let us first define the problem and present some factual material, then try to suggest some ways and means of solution. The facts of childhood accidents are as follows:

Over 12,000 children are killed by accident in the U. S. each year.

Approximately 50,000 is a conservative number of children permanently injured each year by accident. (Two and one-half times the number crippled by poliomyelitis).

One million is certainly the minimal number who seek medical care each year because of accidents.

Accident rates are higher for boys than for girls. Boys are more daring and reckless, more aggressive and age for age less mature than girls. Also, the biologic inferiority of the male is well established. Fifty three per cent of hospital admissions are males in spite of the fact that many women are admitted for childbirth only.

During First Five Years

Approximately one-half of all fatal childhood accidents occur during the first five years of life. In fact, accidents are the leading cause of death at every age of childhood except the first year. Therefore, our first major effort should be to prevent accidents in the pre-school child. It is obvious that the young defenseless infant must be given one hundred per cent protection from falling, choking, drowning, poisoning and burning. This is not so simple as it may sound. The child of six starting to school is exposed to every accident hazard. Is it a slogan in icing on his fifth birthday cake that suddenly gave him safe behavior? It must be apparent that the safety of the six year old depends primarily on what he knows and he cannot be educated over night. Like all education, it is the fruit of step by step learning. Like all behavior, it is the result of hero (parent) example, supervised experience and, to a lesser degree, of orthodox instruction. Instincts can not be trusted in so far as the safety and survival of the child is concerned.

Primarily, there are two factors in the causation of accidents:

1. The hazards of environment, and
2. The behavior of the child.

Full Protection

Accident prevention under one year of age requires one hundred per cent protection; by six years of age we must rely principally on what the child knows and how he will behave. The years from one to six must be occupied by diminishing protection and increasing educational experience. The pattern for safe conduct is thus cast during those first five years!

This important phase of protection and training must be managed by the parent. The physician can and should assist by training of the parent in anticipation of accident situations. *(See chart last page). Secondly, the parent must take the time to teach the child on the spot as danger situations arise and, thirdly, discipline must be enforced when reason and other methods fail.

What do we mean by disclipine? Basically, it is the child's knowledge, born of experience, that his own interests are best served by following the course directed by the obviously loving parent. Deviation from that course might reasonably be expected to result in parental disapproval, injury to himself, deprivation of privilege or even a spanking. In any event discipline should be mild, logical, consistent, related to the offense, if possible, and understandable by the child. If, during the first three years of life, discipline concerns itself chiefly with the things that threaten the child's safety it will be proper in amount, vital in results and acceptable by the child. Every child needs to know that his parents will not willfully permit him to be injured or embarrassed. Discipline is as necessary to a child's sense of security as it is to his safety.

Hazards of Environment

Hazards of environment:

1. What protection is necessary?
2. What education is practical?

Let us consider briefly the infant. The parent must offer complete protection most of the first year. The baby must not be left alone except when safely placed in crib or pen. The few moments necessary to answer the doorbell or telephone can be disastrous for the infant left in the tub or on an unguarded table or bed.

The introduction of early education and discipline is indicated as the infant approaches one year of age. The incidence of accidents is tremendous in this toddler age of one to two years because of a combination of curiosity, lack of judgment and knowledge and the newly acquired ability to walk. It is at this age that the play-pen reaches its maximal usefullness. But how about the mother who says "He won't stay in it"? I don't believe the infant of eighteen months can physically climb out nor is there any valid psychological reason why the play-pen, gated room or similar enclosure should not be used until almost two years of age.

Let Child Learn

One important educational technique is to let the child learn from his minor accidental injuries. "That's hot — it will burn your fingers." The child is not forbidden to touch the stove, but he is warned of the consequences if he does. He learns two things: First, the concept of "hot" and Second, that the parent tried to warn him of the unpleasant results of his action. The parent thereby gains stature as a prophet and protector. Also, one should refrain from rewarding minor injuries with an excess of emotion — matter-of-fact sympathy and care are better. Burns are twice as common in girls as in boys. They spend more time in the home and kitchen; dresses and gowns are more vulnerable to open flames than pants and pajamas. The child's world should be simplified as much as possible and unnecessary temptation should be removed from reach if not from view. The two to three year old is much more interested in testing people than objects.

The toddler must not have unsupervised access to any body of water larger than a cupful. Unfortunately, the first two years of an infant's life are spent giving him daily lessons to convince him that he is unsinkable. "Watch baby swim" and "Isn't the water wonderful?" Never a word or a thought about the unpleasant effects of water in the respiratory passages. Yet, adequate education, even at this age, might well provide controlled experiences with the unpleasantness of aspirated water. They can even be taught to "duck" and learn to hold their breath.

Exploring Toddler

The exploring toddler must be protected from falls from heights or onto injurious surfaces, especially with dangerous objects in his hands or mouth. The two year old leans forward when he runs, thus falls most often affect the forehead. Later he stands more erect and the nose becomes the favorite site of injury. At three to four the teeth get knocked loose or out and at five to six the chin and collar bone receive the impact. The six year old breaks his fall with his arms and thus fractures them. The ages of six to eight are notoriously careless years; years of great activity, unfortunately, not tempered by much forethought. Parental admonitions, improperly administered may instill fear or defiance instead of caution. And let's not forget that most accidents occur late in the afternoon when children are apt to be hungry and tired. Children should be permitted climbing adventures within their capabilities and simultaneously taught the dangers involved.

Accidental poisoning deserves especial emphasis both because it is so common during the second and third years and because it is largely preventable. The infant by nature and training considers the mouth as a cavity into which any and everything should be put. The infant has little or no discrimination for good and bad; therefore it is criminal to leave any toxic substances within his reach and curiosity. This is the age of the sugar-coated pill; medicine is no longer nasty. Aspirin, sleeping pills and mother's iron tablets are useful in prescribed dosage, but lethal when taken by the handful. Education against poisons can begin even at 18 months by teaching the child that not everything tastes good. Let him sample a bit of kerosene, vinegar, mustard or alum — just for effect. Experience of this sort will teach the child to bring strange substances to the parent to inquire, in effect "Does this taste good?" Accidental poisoning is three times as common among the racial groups in the United States as among the white population and the death rate in the United States is four times that in Britain. It is also much more frequent in families of low economic status due in no small part to poor heating facilities and the ever present kerosene.

Two Facts

Two facts are noteworthy: First, the high incidence of fatal accidents in the one to two year age group impresses the necessity for concern with increased protection; and Second, the declining incidence of those serious accidents from the ages of two to five suggests that children DO begin to learn safe behavior.

Let us mention briefly some characteristics of the five to nine age group. Bicycles for the first time become a hazard, and the dangers of firearms enter the picture. The child begins to play group games such as "follow the leader" and is by nature more daring and adventurous.

The ten to fourteen age group has the added interest of the automobile in that they envision themselves as drivers-to-be of the powerful and speedy vehicles. It behooves all of us as parents and drivers to set a good example in this regard. Let us always drive safely with obvious respect for speed limits, slow signs and school zones. The child you run down may well be your own! That green light ahead CAN mean life or death if you drive hurriedly and, too late, discover that it is suddenly red. The high school group have their share of the car accidents, but the college age group prove to be the most dangerous drivers. This is primarily due to youthful exuberance and lack of a sense of responsibility or danger. Here again we note a sex difference with regard to auto accidents — the girls are safer drivers than the boys.

Behavior of Child

We have discussed at some length the HAZARDS OF ENVIRONMENT. Let us now say a few words about the BEHAVIOR OF THE CHILD. ACCIDENT PRONENESS is a fairly well established concept among adults, but this tendency can not be necessarily applied to children. There is no doubt that immaturity, lack of judgment, short attention span, impulsiveness and incoordination of movement are factors common to most children. However, some

small percentage of children have more than an average number of accidents. The same may be said for some families. These so-called accident-prone children seem to have a characteristic personality pattern. They usually show a strong tendency to impulsive behavior, a distinct hostility to discipline and authority, a lack of awareness to hazards and even a casual attitude toward injuries. Often, there is an apparently poor parent-child relationship. It does not necessarily follow that such a child is going to develop into a so-called "juvenile delinquent." It seems logical to conclude that the accident-prone child has not been identified as a type or psychologic entity nor has he been distinctly separated from the "child-accident-prone-parent or household."

Summary

1. Accidents are the number one problem in child health today.
2. The great majority of accidents among children are certainly preventable.
3. Effective prevention depends on two things, PROTECTION and EDUCATION, with relation to age. This, in turn, should be promoted by good physician-parent-child relationship.

The physician should teach safety to parent and child at every opportunity.

He should help parents to anticipate accident situations.

The parents should discipline themselves

- **a.** to protect young children from accidental injury;
- **b.** to conduct an expanding program of educating their children to personal responsibility for safety;
- **c.** to be certain that their own attitudes toward safety and their own behavior and practices are above reproach, so that their children are properly taught by precept and example.

ACCIDENT PREVENTION

Typical Accidents	Normal Behavior Characteristics	Precautions
First Year		
Falls Inhalation and Ingestion of Foreign Objects Poisoning Burns Drowning	After several months of age can roll and squirm; later in year creeps, pulls self erect and begins to walk. Places anything and everything in mouth. Is helpless in water.	Do not leave alone on table or bed. Keep crib sides up. Utilize the play-pen in latter months. Keep anything small enough to put in mouth and harmful substances out of reach. Avoid possibility of burns and scalds. Do not leave alone in tub.
Second Year		
Falls Drowning Motor Vehicles Poisons Foreign Objects Burns	Is able to roam about. Can go up and down stairs. Is helpless in water. Puts almost everything in mouth. Has tremendous curiosity, especially for things higher than eye level. They poke and probe with their index finger to explore things.	Keep locked screens on windows. Keep in enclosed space when not in company of an adult. Protect from water in tub and yard. Drive even more carefully with children in the car. Keep medicines, household poisons and small sharp objects out of sight and reach. Avoid use of breakable glasses. Teach hazards of open fires. Avoid open electric outlets and keep electric cords and appliances out of reach. Fence in floor furnaces. Keep handles of pots and pans on the stove out of reach and containers of hot food or drink away from edge of table. Avoid overhanging table cloths.
Two - Four Years		
Falls Drowning Motor Vehicles Poisons Burns	Is able to open doors. Can climb and run. Can ride tricycle. Investigates everything. Plays with mechanical gadgets. Can throw ball and other objects. Still puts things in mouth. They like to play in water. They can take verbal direction.	Keep in safe surroundings when activity is not supervised. Gate stairways — leave no ladders up. Supervise all water activities. Teach about traffic in street-driveways. Keep poisons and medicines out of reach. Hide matches, lighters and fluids. Keep knives and electrical equipment out of reach. Avoid glasses and bottles. Teach risks of handling and throwing sharp objects — no running with glass in hand or stick in mouth.
Five - Nine Years		
Motor Vehicles Bicycles Drowning Burns Firearms Falls	Is daring and adventurous. Control over large muscles is more advanced than that over small muscles. Has increased interest in group play. Loyalty to group makes him willing to play "Follow the Leader."	Teach traffic rules for cycling. Further instructions in pedestrian traffic. Teach the proper use of knives. Teach dangers of water and boats. Encourage skill in swimming. Instruct in proper use of matches and fires. Keep firearms locked up. Teach girls safe use of pins and needles.

Clinical Note on Therapy for Nausea and Vomiting of Pregnancy

By Joseph B. Raddin, M. D., Phoenix

The current exploitation of new remedies to relieve nausea and vomiting of early pregnancy leads many physicians to try one or several worthless medications.

The one indicated remedy which regularly gives relief with no side or ill effects is progesterone in oil. Twenty-five or 50 mg. are given by injection as the first dose depending on severity of the symptoms. Five to seven days later a 25 mg. dose must usually be given. Subsequent injections of 25 mg. are repeated at one or two week intervals until satisfactory relief is obtained. After the third month of pregnancy has passed, the complaint commonly subsides and no further therapy is needed.

If desired, an oily estrogen preparation may be combined with the progesterone in the same syringe but it appears clinically to be of little added benefit.

Many Reasons

There are many reasons to suggest lack of adequate corpus luteum of pregnancy as the etiology of nausea and vomiting of pregnancy. The same reasons suggest progesterone as the physiological remedy. Early therapy is more promptly effective and appears to prevent progression to pernicious vomiting and all too frequent abortion or miscarriage as a late sequela.

Progesterone in oil in adequate dosage should certainly be the first remedy tried.

Failure to give prompt relief should alert the physician to possibility of organic disease, particularly liver and gallbladder disorders. Diagnostic and other therapeutic procedures should not then be delayed.

Ten - Fourteen Years		
Motor Vehicles Drowning Burns Firearms Falls	There is an organic need for strenuous physical action. May play in hazardous places unless facilities for adequate and/or supervised recreation are provided. Need for approval of playmates leads to daring or hazardous activity. Pre-adolescents are often physically clumsy and emotionally erratic.	Further instruction in all kinds traffic. Prepare for auto driving by good example on part of adult and closely supervised instruction — obey all traffic laws. Promote respect for water. Teach handling and dangers of fireworks. Teach kitchen safety to the girls — forbid these children to fry. Instruct in safe use of firearms. Provide safe and acceptable facilities for recreation and social activities.

*Compiled from data furnished by Committee on Accident Prevention of The American Academy of Pediatrics.

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Clinical Notes

The neurologic signs caused by metastases to the central nervous system may be the first clinical manifestations of a cancer of the lung. Two types of neurologic disorder from this cause are encountered fairly frequently: a) Signs of a progressively expanding lesion within the brain; b) The "multiple root" syndrome due to seeding of the tumor in the spinal subarachnoid space; in this condition unusual sensory disorders in areas supplied by various spinal nerves may be present. Certainly before a diagnosis of primary neurologic disease is made in cases of this type, a chest x-ray should be performed.

Nor-Epinephrine Treatment of Shock

Intravenous nor-epinephrine was administered as treatment in forty-four cases of shock not responding to adequate treatment with other measures. A satisfactory and immediate pressor response with maintenance of the blood pressure at desired levels was obtained in all but two patients . . . It is particularly helpful in the patient in whom blood volume is normal or increased, in whom the further adminsistration of intravenous fluids is contraindicated or ineffective. However, the underlying cause of shock, whether it be medical or surgical, must be corrected in order for patient to recover.

. . . Fourteen patients with myocardial infarction were treated, all with grave prognosis because of severe shock and other associated complications. Six of the fourteen patients recovered when the blood pressure was adequately maintained with nor-epinephrine.

. . . Nor-ephinephrine is of limited value in the treatment of shock associated with severe infection unless the underlying infection can be rapidly treated with a specific therapeutic agent.

. . . So-called postoperative "irreversible shock" is frequently not irreversible if the blood pressure is maintained long enough for physiologic recovery of the medullary centers provided the underlying cause of the shock is corrected and the patients are given adequate but not excessive amounts of intravenous fluid.

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Chronic Benign Suppurative Pulmonary Disease *

By F. J. Kelly, M. D., F.A.C.S., Amarillo

Pulmonary suppurative disease provides one of the largest fields for which pulmonary resection may be indicated. During the past ten years accumulated knowledge of the subject has shown that a high percentage of these patients will recover just as infections in other parts of the body have responded to the rapid advancements we have all been privileged to witness. These diseases include bronchiectasis, lung abscess and the "middle lobe syndrome". Successful treatment in this group of diseases is especially dependent upon an early appreciation of the seriousness involved in order that treatment can be carried out before the patient becomes an irreversible pulmonary cripple.

In studying the pathogenesis of bronchiectasis and lung abscess it becomes immediately apparent that the two main features of bronchiectasis, infection and obstruction, are also present in lung abscess. We can therefore discuss both these diseases together. Advanced bronchiectasis will often develop into lung abscesses and adjacent bronchi will frequently reveal more or less bronchiectasis in cases of lung abscess.

Five Factors

Laennec (1) first described and named bronchiectasis in 1819. Mallory (2) found five factors — chronic bronchial infection, congenital abnormalities of the bronchial tree, bronchostenosis, pulmonary atelectasis and pneumonitis or its sequel, pulmonary fibrosis, to be potential factors in the etiology of bronchiectasis. It is therefore a disease characterized by localized dilation of the bronchi with infection involving the bronchi and surrounding lung.

The more common causes of lung abscess and bronchiectasis include, pneumonia, chronic pulmonary infections secondary to sinusitis or bad teeth, aspirated foreign body followed by infection and bronchial obstructing tumors.

Tannenberg and Pinner (3) in 1942 found with their experiments on rabbits that lung suppuration occurred following partial obstruction in the presence of infection but only an uncomplicated atelectasis developed in the presence of a total bronchial obstruction alone.

Clinical Features

Males and females are equally affected. Though these diseases can occur at any age, they are characteristically a disease of youth. Infants and children are particularly prone to obstructive atelectasis and seventy per cent of patients with bronchiectasis will develop the disease before the age of twenty. Lung abscesses more commonly occur in the upper lobes while bronchiectasis is more frequent in the lower lobes. There is ordinarily a chronic productive cough with a characteristic purulent, abundant, foul sputum. These patients become chronically ill and socially objectionable due to their foul breath. The majority with bronchiectasis succumb to some form of respiratory illness or complication by the fifth decade. Pulmonary osteoarthropathy frequently occurs with bronchiectasis which is characterized by clubbed fingers and painful joints.

Roentgenograms of the chest may be normal in bronchiectasis and in some instances it is not possible to differentiate this condition from lung abscess. Peribronchial markings are frequently present and are suggestive but confirmation can only be obtained by bronchography. Bronchoscopy must also be part of the diagnostic approach as the presence of a growth, bronchostenosis or foreign body must be known prior to operation.

Middle Lobe Syndrome

The "middle lobe syndrome" is essentially that of supperative disease in any other portion of the lung but is described as a separate condition only because if the right middle lobe is involved it is frequently the only location of the disease process. The course of this disease is generally mild and for this reason is often found during routine office x-rays. The middle lobe bronchus is most susceptible to compression (4) by peribronchial lymph nodes. The shrunken lobe appears as a roughly triangular dense area and this finding must be followed by bronchoscopy because of the possibility of bronchiogenic carcinoma.

Treatment

The prevention of suppurative lung disease includes the early recognition and correction of postoperative atelectasis of childhood complicating pneumonitis and aspiration of foreign matter during and following surgery. General medical measures including a high protein diet, antibiotics and vitamin supplements may be of value in palliation. Postural drainage and x-ray treatment are of benefit.

Most lung abscesses can be successfully treated by conservative measures. Extensive or multiple abscesses and those present for over ten or twelve weeks are best treated by lung resection.

Though bronchiectasis is only slowly progressive it is irreversible and surgical resection of the involved lobe or lobes is the only effective therapy. Resection will return these handicapped patients to a normal life with increased work capacity in many instances. Patients in good general condition up to the age of fifty can generally be permanently cured by removal of all of the diseased lung with a mortality of about two per cent.

Summary

Chronic benign suppurative disease of the lung can and must be diagnosed accurately and early if

(Continued on Page 426)

*Presented before the Howard, Martin and Glasscock Counties Medical Society, Big Spring, Texas.

Uterine Lipoma

Report of a Case and Review of the Literature

WILLIAM T. HILL, M.D.,* AND C. E. MURDOCK, M.D., LITTLE ROCK, ARKANSAS**

We first became interested in lipomas of the uterus when a specimen of intramural lipoma of the uterus was submitted to this department. Intramural lipomas of the uterus are rare and only four cases have been reported in the English literature. We would like to report a case and speculate concerning the genesis.

Case Report

Mrs. M. T., a 65 year old white female, was first seen on October 5, 1952, with a chief complaint of, "I have a tumor in the lower part of my stomach." —duration 16 months.

Present Illness:

She stated that she first felt a knot (indicated about 5 cm. in diameter) in the lower part of her abdomen in July, 1950. In February, 1951, when she began to notice a rather constant "feeling of pressure or weight." This symptom had persisted and in June, 1951, she noted about "... a tablespoonful of pinkish discharge ..." from the vagina. "My daughter noticed the protuberance in the lower part of my stomach while I was changing garments and insisted that I consult a physician." On direct questioning, the patient indicated the tumor was about 20 cms. in diameter and tender.

Past History:

Menses: Began at the age of 16 years and occurred every twenty-eight days with flow of five days' duration. No difficulties. L. M. P. about age 50. Para X, Gravida VIII. Two miscarriages at three months (pregnancies one and three.) All other pregnancies were full term and no history of post partum complication was elicited. No major illness nor operation.

Physical Examination:

Height five feet four inches. Weight 154 pounds. Blood pressure 170/96. Pulse 78. Respiration 16. Temperature 98.6. Patient is a moderately obese white female who does not appear in any distress. There is a marked graying effect of the hair. *EENT:* Non-contributory. *Chest:* Lungs and heart showed no significant finding. *Abdomen:* There is a freely movable tumor approximately 18 cms. in diameter, moderately firm, non-tender and located in the midline below the umbilicus. No fetal heart tones are heard. *Pelvic:* A mass is present in the usual anatomical position of the uterus. It is well circumscribed, filling almost the entire pelvis, but not attached to the bladder or rectum.

Laboratory Data:

All tests were within normal limits.

Diagnosis and Course in Hospital:

Because of the patient's age, a malignant neoplasm of the uterus was given primary consideration. Other diagnoses were: hypertension, essential, without clinical cardiomegaly; and obesity.

An exploratory laparotomy was performed October 2, 1951. The surgical procedure consisted of supravaginal hysterectomy, right salpingectomy, and a prophylactic appendectomy. The patient withstood the procedure well and experienced an uneventful convalescence.

Pathology: Report: Gross:

"The specimen consisted of a supracervically amputated uterus, right tube and appendix." (The latter two specimens showed no unusual gross or microscopic changes.) "The uterus measures 23 x 12 x 15 cms. It is ovoid, soft, and covered with a smooth glistening serosa, multiple sagittal sections revealing a large, soft, well-demarcated, yellow, fatty tumor having completely replaced the endometrium and all of the myometrium except the peripheral 1 cm. Fat droplets exude from the cut surface. The mass is uniform in structure, color, and consistency.

Micro:

"The sections reveal large areas of adult fat cells with relatively few fibers of connective tissue scattered throughout. The fat cells are sharply demarcated from the myometrium. The remaining myometrial fibers appear to be compressed. There is no microscopic evidence of fatty degeneration of the smooth muscle fibers. It is of interest to note the close proximity of a large vessel to the border of the tumor."

Special fat stains with Sudan IV and osmic acid were positive.

Discussion

We have found 27 cases which have been reported in the literature as uterine lipoma. Three of these cases (reported by Lobstein, Seegar, and Orth) had no microscopic examination. While there exists little doubt as to the true nature of these neoplasms, they have been omitted from this review for the sake of authenticity. We encountered considerable difficulty in distinguishing between the true lipoma of this series and other cases recorded in the literature as fibrolipomata, lipofibromyomata, myolipomata, lipomata, and fatty tumors of the uterus. The cases of Hicks,[13] Starry,[28] and Elkin[8] and Haythorn would best be termed "equivocal." We have attempted to

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eliminate the confusion which exists in the literature as to the classification of these neoplasms, by selecting only those which were composed entirely of fat cells. There are 21 authentic cases reported in the literature with adequate gross and microscopic examination which we feel should justly be classified as uterine lipomata.

Histogenesis

In the normal embryological process the fat tissue is restricted to the perimetrium in the region of the Fallopian tubes and to the parametrium. It is found only in very small quantities in these areas.

Hence the fundamental question: "What is the origin of the fat cell in the uterus?" Fat occurs in skeletal muscle, smooth muscle (Beri Beri,) and as a result of certain pathological processes. Usually this fat replaces muscle fibers and, when such is the case, it is referred to as fatty degeneration. This has led a host of followers to propound the theory of metaplasia (and degeneration.) The chief supporters are: Branning, Chiari, and Bence. They support the argument by the observations of Branning who saw myometrial cells vacuolize and gradually become "fat cells" (metaplasia.)

Another means by which fat may appear in abnormal locations is by congenital displacement or heterotopia. This led Sydel to the belief that a congenital displacement of "lipoblasts," occurred at the time of fusion of the Mullerian ducts and referred to this as the dysembryoplastic theory. He further suggested that "lipoblasts" may be introduced along the ingrowing vascular channels and in support of the latter he offers the fact that the first evidence of a lipoma is usually peri-vascular.

Third Theory

A third theory, which could well be considered the theory of metaplasia was suggested by Franque and Jacobson. The latter found that the cells immediately adjacent to the lipoid tissue stained lighter and had the appearance of fibroblasts while the more remote myofibrils retained the usual amount of stain. They attributed the development of the fat cells in the uterus to the infiltration of connective tissue by fat particles.

These theories fall into one of three groups: (1) fatty degeneration of the smooth muscle fiber, (2) congenitally displaced "lipoblast," and (3) metaplasia of fibroblast to fat cell. The primary problem is: are the tumor cells true fat cells or are these tumor cells another type of cell which has taken up fat and become a lipoblast or fat cell.

Frequent Fat

In favor of fatty degeneration is the frequent presence of fat in the adjacent surrounding myometrium in the cases of lipoma recorded and the observations of Branning, Bence and Chiari. But the rare frequency of fat ever being recorded in uterine muscle with the many thousands examined each year raises considerable doubt as to the verity of this theory. Likewise we know that highly specialized smooth muscle cells of the heart and striped muscle take up fat in globular form. We were unable to find a proven case of lipoma of the heart recorded in the literature and there are too few cases of lipoma of the skeletal muscle to be of much significance. We identified many smooth muscle cells in the myometrium but were unable to find one containing globular fat. This has apparently been the experience of Elkins and Haythorn[8] and others. We are of the opinion that the true histogenesis of this tumor rests on the true lipoblast or connective tissue (histocytes, fibroblasts, wandering macrophages, etc.) cells which have acquired fat and become fat cells.

In favor of the dysembryoplastic theory or congenital displacement theory are: (a) The relative high frequency with which congenital remains are found in the adult female genital tract. (b) The principal cell is the typical fat cell which cannot be distinguished from adult fat cells in other parts of the body. This is support only if one considers that the fetal fat cell would have lost its characteristics and changed to an adult fat cell in the process of hyperplastic formation of the tumor cell. (c) In the true lipoma a few strands of connective tissue are frequently identified and there is no shading off of fat tissue. The line of demarcation in the case studied is abrupt. (d) Mallory[18] states "that fat cells are definite cells formed by differentation from mesenchymal cells and are not fibroblasts nor are they derived from fibroblasts." Other cytologists and pathologists who are in essential agreement with this theory are Stout, Murray[21] and Wells[30].

Chief Support

The chief support of the connective tissue origin (A) is the almost indisputable evidence of Clark and Clark[7], who showed by direct observation and camera lucida drawings at hourly intervals, transformation of the fibroblast (tissue histocyte and wandering macrophage) into a fat cell by the ear chamber technique in rabbits. Latta and Rutledge[16] observed that certain adipose cells of the omentum lost their fat and engulfed trypan blue injected intraperitoneally; thus acting as macrophages. Fleming[10], Bell[4], Hammer[12], Inglis[15], Chang[6], and McCullough[20] are in essential agreement with both Clark's and Latta's work. (No agreement exists as to the name of the cell.) Each of the men in agreement have noteworthy experimentation on which to base their opinions. (B) We are all familiar with the process of other cells in the body taking up fat — namely, liver, kidney, adrenal and heart muscle. Are the connective tissue cells immune? (C) The kidney accumulates fat to such a degree that the disease is recognized as renal lipomatosis. (D) The age incidence of lipomas is generally considered to be beyond the time in which congenital tumors usually appear. (E) The work of Schoenheimer[26], Rittenberg[28], and Stettin[29] with isotope tagging of fat demonstrated conclusively that the body fat is not a sessile inert tissue; but, is in a continous dynamic flux with pos-

sibly half of the body fat changing its site and physical state every twenty-four hours. (F) Anderson and Mendel[3] have shown that deposits of fat in animals depends to some extent upon the nature of the dietary fat; and Schoenheimer and Rittenberg have shown that a small part of the absorbed fat goes directly to the organs and that a large part of dietary fat is deposited in the fat tissue before it is utilized. These investigators have also shown that there is a selective deposition of fat in certain organs. This is well shown by the skin grafts from the anterior abdominal wall to cover other parts of the body; as the fat in the abdominal wall increases or diminishes these grafts exhibit proportionate thickening and thinning. Schoenheimer and Stettin[29] have likewise proven that a selective deposition of high molecular weight fatty acids occur in the fat depots. Once the primary fat deposition has occurred would the work of Schoenheimer and others explain the continuous deposition in the initial depot? What catalyst or stimulus initiates and controls the fat deposition in these depots? Would there be a greater incidence of visceral lipomata in the obese?

Summary

There are twenty-one cases of true uterine lipomas in the literature and the addition of our case brings the total to twenty-two.

Lipoma of the uterus appears to be a relatively rare tumor of the uterus. There have not been a sufficient number reported to give any accurate statistical incidence. It appears to us that they occur with about equal frequency as mixed tumors of the uterus. Lipomas of the uterus occur most commonly in the intramural portion and near the cornu of the uterus. There is only one lipoma and one lipoid polyp of the cervix recorded. Four cases of liposarcoma are recorded. These are believed to have had their origin in benign lipomas.

The average age at which the diagnosis was made was fifty-seven years. Only two cases are recorded before the age of forty and two after the age of sixty-five. They are most commonly diagnosed after cessation of menses. Due to insufficient data recorded with each case of lipoma of uterus we were unable to demonstrate any definite relationship to the number of uterine pregnancies and abortions; to obesity; or to state that a definite predominating symptom or sign occurs. The following were commonly recorded: tumor, metrorrhagia and post menopausal bleeding. Metrorrhagia being the usual symptoms in the child bearing age group and tumor in the post menopausal group.

Clinically, it was frequently confused with uterine pregnancy because of the softness of the tumor and the increase in size of the uterus. Extra-uterine pregnancies were also considered in those cases where lipoma occurred near the cornu and were associated with vaginal bleeding. Malignant neoplasms and degenerated fibroids were considered in the post childbearing age groups. It was interesting to note in this group, as well as in the former group, that in an attempt to currette these patients, the physician usually pushed his currette through the lipoma with ease producing some consternation in many instances. For example, Burger reports that on curretting his patient, he felt that he had penetrated the myometrium and hastened to perform a coeliotomy; only to find that he had penetrated a lipoma.

Conclusion

We have reported a case of uterine lipoma and reviewed twenty-seven other cases in the literature; in twenty-one of which there is adequate gross and microscopic description to classify the tumors as true lipomas of the uterus. To our knowledge this brings the total number of uterine lipomas, reported in the world's literature, to twenty-two cases.

We have attempted to emphasize the more important clinical signs and symptoms of the disease and point out the more common diagnostic errors. It would be unwise to draw more definite clinical and pathological conclusions until a larger number of cases are reported and analyzed. We have briefly discussed the theories of histogenesis and added a few factors to the fibroblastic origin of fat cells which we believe are of some importance. We do not claim to have settled the origin of the "fat cell," but believe there is increasing evidence to support the fibroblastic origin.

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EDITORIAL

Dr. Coventry's Valedictory Address *

Much comment has been aroused by the Tufts Medical Journal's attempt to bring to its readers an integrated program of non-scientific as well as scientific supplements to medical education. This stand on the "Chiropractic Problem," so ably performed by D. C. White, is not only being studied for its own merit, but is bringing the name of Tufts to a wider acquaintanceship. We are proud of the fact that this article has been reprinted in the Richmond County Medical Society Bulletin of New York for purposes of fighting legislation, and is also shortly to be reprinted in the journal of *Southwestern Medicine*.**

We would like to add, however, that criticism is not the whole answer in combating the pseudosciences. Constructive efforts, if proposed by us, would be somewhat pretentious as well as unnecessary; for this is not a new problem. Over one hundred years ago some excellent advice was given which we would like to call your attention to.

Experience and Reflection

"Some experience and much reflection on the subject has long since produced the conviction that this is an evil which can neither be combated by reason nor suppressed by legislative enactments. We would suppose that education and the diffusion of general intelligence would correct it, but past experience contradicts the supposition; our papers are filled with the names of men of education and talents attached to recommendations of nostrums, of the composition and effects of which they are perfectly ignorant. One mode, and only one, remains for correcting the evil; if this fails, it is remediless. Let medical men divest the profession of all the mystery in which it has unfortunately been enveloped—too long has the physician been considered the rival of the juggler. Let them demonstrate, that like every other science, it is founded on careful observation; that, it consists of the accumulated and recorded observations of successive ages; that no man is born a physician, but to acquire this knowledge is the labour of years of unremitting toil. Teach men the functions of their own system, how admirable in design, how complicated in structure, and yet how beautifully adapted in every part to the performance of its own appropriate functions. Then ask them if they are willing to trust the correction of derangements of this beautiful machine to persons entirely ignorant of its several parts, when a single error may cost them their lives.

Quackery and Empiricism

"To guard against quackery and empiricism out of the profession would not be the only good accomplished by the general diffusion of this knowledge. It would qualify community to judge as to the actual and comparative merits of members of the profession. The modest and unassuming physician would be elevated to his proper station, whilst presumptuous ignorance, whether with or without a diploma, would be consigned to deserved contempt. A knowledge of their own system would enable mankind to guard against many causes of disease to which they have been continually subject. To accomplish this as far as possible has ever been a favourite object with the founders of this institution. It has been urged upon her graduates to improve every opportunity of giving popular lectures on anatomy, physiology and hygiene. There are few places where an audience could not be collected to listen to a lecture on those interesting subjects, and few physicians are so fully occupied during the first years of their practice but they could find ample time for their preparation and delivery. Permit me to repeat to you, young gentlemen, the recommendation; your leisure hours could not be more profitably employed either for yourselves or the public; and we ask for our institution no prouder distinction than that her graduates should be everywhere known as the pioneers in the great work of reform."

*Address to the graduates of the Medical Institution of Geneva College, delivered January 25, 1842. By C. B. Coventry, M.D. Dean of the Faculty, and Professor of Obstetrics and Medical Jurisprudence. (Published by request of the Class.) 8vo. pp. 16. Utica, 1862.

**"The Chiropractic Problem" by D. C. White appeared in *Southwestern Medicine* of November 1954. This article reprinted from the Tufts Medical Journal of March 1954.

Chronic Benign.....

(Continued From Page 422)

serious complications are to be avoided and resection at the optimal time is to be carried out. The effective collaboration of the general practitioner, radiologist, internist and thoracic surgeon is essential in the management of these patients.

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BOOKS

Ageing — General Aspects; a Book Review of the Ciba Foundation Colloquia on Ageing

By Jack C. Postlewaite, M. D., El Paso

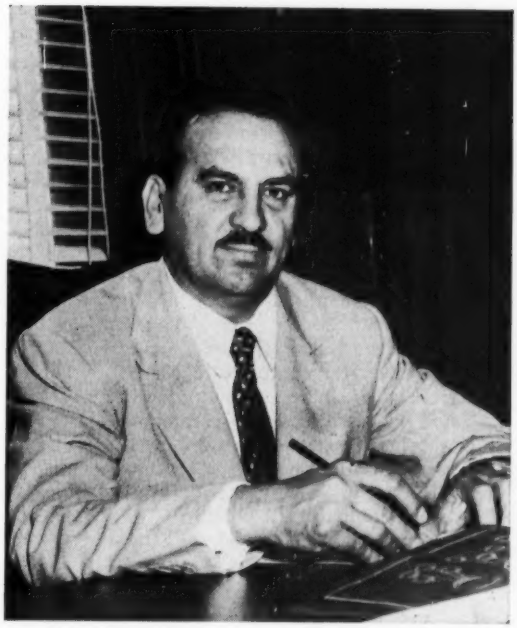
Ageing is the most serious unprobed and misunderstood problem presented to the medical profession at this time. Authorities of the medical profession and associated sciences present research and background material from all corners of the scientific world. The first pitfall in the study of ageing is the difficulty of definition of senescence. For example: "Senescence is a change which accompanies ageing and makes an individual progressively more liable to die." However, philosophically one believes with the authors as quoted from Montaigne that "death is but an end to dying".

Two particularly interesting chapters are to be found. "Research Areas in Gerontology Nutrition That Are Now Neglected", is presented by C. M. McCay, Ph. D. Theoretically the insect world is our ideal research laboratory. Problems of longevity may be completed within the insect life span with excellent human correlation, minimal expense, and repeated under controlled conditions for conformation. Laboratory animals may survive longer than the experimentor and are subject to epidemic diseases. Statistical testing and reporting without basic data have been the "vulgar error" of medical research. Human biological research is negligible when one realizes that there are 13,000,000 older people in the United States of which only a fraction are contributing to studies of their own welfare.

An unusually interesting chapter, "A Fantasy of Ageing and The Bearing of Nutrition Upon It", by R. A. McCance, M. D., F. R. S. and E. M. Eiddowson, D. Sc., deserves special comment. It is here that one sees the possibility that rapid maturation of cells in ageing could be a factor of over-nutrition rather than deprivation. The hormone, electrolite, and enzyme systems of the body appear to age more rapidly with over-nutrition.

One can feel that this introductory volume on the subject of "Ageing" has much to contribute to the practicing physician in terms of background information and should prove to be elemental for the following of other symposia on the international level. The technical material is not over-burdening; however, basic definitions are somewhat tiresome. These new concepts of cause and effect in senescence on a 1955 level are available to all readers.

General Jesus Lozoya Solis, M. D., F. A. C. S., is New Governor of Chihuahua



Dr. Jesus Lozoya Solis

In somewhat of a sensational development last month, Dr. Jesus Lozoya Solis, a general in the Mexican Army Medical Corps and a Fellow in the American College of Surgeons, became the new Governor of the State of Chihuahua in Mexico.

Dr. Lozoya Solis replaced Oscar Soto-Maynes, who was forced to ask for an indefinite leave of absence by pressure from the central government in Mexico City. Dr. Lozoya Solis will serve the remaining 14 month term of Soto-Maynes.

A native of Parral, Mexico, the new governor is 45 years old. He is director of the military hospital in Mexico City and is a close personal friend of President Adolfo Ruiz Cortines. He has appeared as a lecturer in the United States, Cuba, Peru, Argentina, Spain and Holland.

Dr. Lozoya Solis was sworn into office on August 10. By accepting and serving Soto-Maynes' unexpired term, he automatically killed his chances of seeking the regular six-year gubernatorial term. He had been rumored as President Cortines' choice for governor of the state in the 1956 elections.

Arterial Oligemia of the Lung in Severe Mitral Stenosis

By Felix G. Fleischner, M.D., and Elliot L. Sagall, M.D., Beth Israel Hospital, Boston

Taussig and others have observed that the pulmonary vessels are scanty in some instances of congenital heart disease and quite abundant in others. Maurice Campbell proposed the terms "oligemia" for diminished flow and "pleonemia" for increased flow to the lung. Campbell and Bing found this roentgenologic observation important enough as to serve as a main criterion in the classification of congenital heart diseases. These considerations in the field of congenital heart disease, concerning both the understanding of the morbid condition and the roentgenologic recognition, appear to be applicable to acquired circulatory disturbances as well. Going a step further, we have learned to distinguish, with fair accuracy, between increased pulmonary pressure and increased pulmonary flow. The increased transparency of the lung fields accompanied by enlarged hilar shadows in advanced pulmonary emphysema has been known for a long time. The oligemic condition of the lung in pulmonary embolism is of more recent recognition.

Atherosclerotic changes in the pulmonary arteries *in mitral stenosis* have been thoroughly studied by Parker and Weiss and others. The emphasis has been on the changes in the arterioles and small arteries, but very little attention has been paid to the bigger arteries.

Arteriolar Constriction

In addition to these fixed anatomic changes, Dexter and others have suggested that a part of the disproportionately high pulmonary artery resistance in mitral stenosis might be due to arteriolar constriction, thus permitting change and reversibility. Recent angiographic observations, however, have presented new information. Goodwin, Steiner and Lowe of London, and Actis-Dato, Angelino and Zambelli of Turin, Italy, have demonstrated marked dilatation of the large hilar branches accompanied by narrowing of the pulmonary arteries of the third and fourth order in severe mitral stenosis (slides demonstrating the findings of the London and Turin groups). There is apparently good agreement of the degree of these angiographic changes of the pulmonary arteries and the clinical severity of mitral valve disease, including also the pulmonary artery pressure.

We asked ourselves whether it was possible to establish these changes on the plain chest roentgenogram without opacification of the arteries. At first this seemed to be hopeless, for two reasons. In all other known instances of oligemia, both congenital and acquired, the diminished flow of blood to the lung results in a reduced blood content of the entire organ because there is no further barrier, and the lung appears bright on the roentgenogram. In mitral stenosis, however, the oligemia on the arterial side is associated with stasis and congestion in the capillary area and on the venous side, because of the impaired drainage into the overfilled left auricle. Thus, the partial arterial oligemia would not be immediately recognizable against the background of capillary and venous pleonemia.

Other Difficulty

The other difficulty consists in the generally parallel arrangement of the arteries and veins in the peripheral lung field. Fortunately, however, the course of the larger vessels close to the hilum is entirely different for each of the arteries and veins. Already Assman has recognized the venous trunks convergent from the right and left toward the left atrium and crossing the tail of the arterial hilar shadow in their more or less horizontal course. The different arrangement of arteries and veins was brought into better relief by laminography, postmortem opacification of the vessels, and eventually, by the arterial and venous phase of angiocardiography. The hilar shadows, particularly the more exposed right hilar shadow, are often compared with a comma. The tail of this comma is practically exclusively made up of arteries.

We have also seen during cardiotomies for mitral stenosis (watching Drs. Dwight Harken and Howard Frank) the almost aneurysmal dilatation of the pulmonary artery trunk and main branches, a dilatation, of which so little trace is usually recognizable in the pathological specimen.

Closed Circle

This closes the circle. In symptomatic cases of mitral stenosis, particularly those of grade 3 and 4 severity, one may observe on the plain roentgenogram plump, wide hilar arteries forming a tumor-like massive shadow. Their continuation downward, however, is completely absent, or one may find just a few indistinct string-like irregular shadows entirely out of proportion with their parent vessels. In addition, there is diffuse haziness of the lung fields with scattered minute or slightly larger ill-defined flecky densities. In the right paracardial region and in the upper left hilar region dilated pulmonary veins may be recognized as such.

The aneurysmal dilatation of the big hilar arteries and the withering away of the arteries of the third,

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fourth and fifth order, sometimes with complete "amputation of the tail of the hilar shadow" become very impressive if one reviews the roentgenologic development over many years in patients with severe mitral stenosis. Demonstration of roentgenographic series covering 6, 12 and 15 years, respectively.

These changes are not limited to rheumatic heart disease. Identical pulmonary arterial changes have been observed in chronic congestive failure secondary to hypertensive heart disease and in a patient with myxoma of the left atrium simulating the hemodynamics of mitral stenosis.

In some instances this constriction of the medium sized arteries has been observed to revert after mitral valvuloplasty. Demonstration of series of preoperative and postoperative roentgenograms.

Up to a few years ago the findings of marked organic narrowing, fibro-elastic-muscular hypertrophy of the arterioles in severe mitral stenosis, made it doubtful how much restoration might be obtained from opening up of the stenosed mitral valve. The grandiose success of the operation in many instances has vindicated it. Lowering of the pulmonary artery pressure and pressure gradient have been observed after valvuloplasty, along with clinical improvement. This points to the probability that a part of that unproportionately high pulmonary arterial pressure has been due to reversible vaso-constriction (and this seems to support Dexter's concept of a protective mechanism). This would also explain why severe changes in the bigger arteries have been found by the pathologist only exceptionally.

Our observations suggest that these changes can be read — with a good degree of accuracy — even from the plain roentgenograms. In obvious analogy to systemic hypertension one may expect irreversible hypertension is allowed to persist for a longer period of time.

If the apparent parallelism between pulmonary arterial pressure, roentgenologic vascular pattern and (to some degree) clinical conditions, is corroborated by further studies the careful analysis of the vascular pattern in the plain roentgenogram, particularly the ballooned hilar vessels and the amputation of the right hilar shadow, may become a *simply observable* sign of some clinical significance, possibly an additional signal, that the valvuloplasty should not be postponed too long, in order to *prevent* the development of *irreversible vascular alterations.*

An Improved Method for the Intravenous Administration of Heparin

By Stanford Wessler, M.D., and Jerome W. Fischbein, M.D., Beth Israel Hospital, Boston

This report describes a method whereby the problem of intermittent intravenous heparin administration has been resolved through the use of indwelling polyethylene catheters attached to rubber-capped Tuohyadapters.

In the method employed, a thin-walled, 18 gauge needle was inserted under sterile precautions into a superficial forearm vein. After the withdrawal of blood for the initial clotting time determination, four inches of sterile polyethylene tubing was threaded through the needle into the vein. Holding the catheter in place by counter pressure proximal to the needle, the latter was withdrawn from the vein, the free end of the tubing secured to a sterile adapter and the open end covered with a sterile rubber stopper. The catheter and adapter were secured in position in a superficial forearm vein and the catheter covered with an ace bandage leaving only the rubber cap exposed. After insertion of the catheter, the patient was permitted unrestricted use of the extremity. Prophylactic chemotherapy was not employed. Blood samples for daily clotting times were not obtained from the catheter.

Heparin was administered by catheter to 38 patients. The drug was given therapeutically for thromboembolism complicating various disease states as well as prophylactically to a group of patients with acute myocardial infarction. In three-quarters of the patients the catheter was in place for more than one week; in nine patients it was in place for two weeks, in eight patients for three and in two patients for four weeks.

Since the catheters were placed in superficial forearm veins, they could be readily inspected at the first indication of discomfort. Catheters were inserted in some instances into previously traumatized vessels without inducing any local reaction. Cultures obtained from the catheter tip or interior of the rubber cap in 22 patients were all sterile. In none of the 38 patients was ascending superficial or deep thrombophlebitis, embolism, fever or septicemia from the catheter encountered. Although one-quarter of the patients experienced a slight localized reaction to the polyethylene tubing, in no instance did these symptoms actually preclude the use of heparin by catheter.

The success of the technique has been dependent on (1) the availability of a flexible non-reactive small bore catheter, (2) the avoidance of a surgical incision with the maintenance of asepsis in the insertion of the catheter and (3) the ability repeatedly to introduce heparin into the system through a rubber cap without causing infection. Thus, catheters have remained in veins for as long as 4 weeks without the development of ascending thrombophlebitis or systemic reactions. Patients with acute myocardial infarction were treated with heparin as easily as with dicumarol controlled by a daily prothrombin time.

The fact that intravenous therapy other than heparin can be readily administered through the catheter suggests that the technique may find further uses in critically ill patients. Recently a patient with pneumococcal meningitis received repeated injections of penicillin via the catheter for several days. The method should also prove of value in the administration of massive doses of antibiotics in the treatment of bacterial endocarditis.

Sublingual Erythrol Tetranitrate in Angina Pectoris

By J. E. F. Riseman, M.D., George E. Altman, M.D., Lester A. Steinberg, M.D., and Elliot Sagall, M.D., Beth Israel Hospital, Boston

The comparative value of nitroglycerin, erythrol tetranitrate, and sodium nitrite in preventing attacks of angina pectoris was measured by determining the amount of exercise under standardized conditions which could be performed before pain was induced. Eight patients with angina pectoris were studied. The drugs were given by three different routes, sub lingual, subcutaneous, and oral and the effect was compared to that observed while the patient was taking placebos.

When the three nitrites were given sublingually, or subcutaneously, five out of the eight patients were able to do a significantly greater amount of work before developing angina than was possible while taking placebos. When these drugs were given orally, this increase in exercise tolerance did not occur. The implications of these results are:

1. The nitroglycerin, erythrol tetranitrate, and sodium nitrite, when absorbed from the G. I. tract, are much less effective than when absorbed directly into the systemic circulation as occurs following sub lingual or sub-cutaneous administration.

2. This probably explains why the results of animal experiments (where drugs are given parenterally) show these drugs to be efficient vaso-dilators whereas clinical studies (where erythrol tetranitrate and sodium nitrite are administered by mouth) show these drugs to be of limited value in preventing attacks of angina.

3. There is a possibility that the use of erythrol tetranitrate sublingually might be of value in the clinical management of patients with angina pectoris.

Further Observations on Treatmen of Stokes-Adams Disease with External Electric Stimulation of the Heart

By Paul M. Zoll, M.D., Arthur J. Linenthal, M.D., and Leona R. Norman, M.D., Beth Israel Hospital, Boston

We have now used a new method of external electric stimulation of the heart in 16 patients with Stokes-Adams disease. With it ventricular stand-still may be terminated and regular externally-paced ventricular beats may be maintained for long periods.

External stimulation was demonstrated to be effective in 15 patients; its efficacy in one patient was not determined, because of difficulty with the electrocardiogram.

After an initial trial the electric cardiac pacemaker was not used in 3 patients because syncope did not recur. The remaining 12 patients were all desperately ill or moribund, and Stokes-Adams attacks recurred repeatedly, despite the use of cardio-active drugs.

Three Patients

Three patients were stimulated for short intervals only, for resuscitation from individual attacks. Nine patients were stimulated for prolonged periods, from 25 minutes to 108 hours because of frequently recurrent, severe attacks; an adequate, stable ventricular rhythm failed to appear promptly after resuscitation with the external pacemaker. Attacks due to ventricular standstill or slow idioventricular rate were terminated repeatedly by stimulation. Although stimulation did not stop ventricular tachycardia or fibrillation, its continued application maintained a regular, externally-paced rhythm for long periods and prevented the appearance of rapid, irregular ventricular rhythms.

Six patients died during treatment because of cardiac tamponade from needle punctures, because of irreversible cerebral damage from previous Stokes-Adams attacks, and because of recurrent attacks that were treated too late, or did not respond to the pacemaker because they were due to ventricular tachycardia or fibrillation.

Six Patients

Six patients survived treatment for intervals of 9 days, 9 days, 2 weeks, 6 months, 10 months and 1 year. Three died subsequently of recurrent Stokes-Adams attacks, but three are still alive. Such long survivals suggest that the cardiac disturbance producing frequent attacks may subside if the patient is kept alive during the crucial period.

The external cardiac pacemaker should be used for patients with active Stokes-Adams disease in combination with other agents that affect atrioventricular conduction, intrinsic ventricular pacemakers and the blood pressure, in a coordinated program of emergency resuscitation from attacks and of prevention. If the patient can be kept alive over crucial periods of instability, the disease may become quiescent and prolonged survival without attacks may ensue.